# RESULTS OF UNDERGROUND TANK LEAK DETECTION PROGRAM FOR PLANT B-6

SFUND RECORDS CTR 2166-00840 SAMS 88130261

LOCKHEED CALIFORNIA COMPANY
BURBANK, CALIFORNIA

SUBMITTED TO

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

LOS ANGELES REGION

JANUARY 11, 1985

#### TANK NUMBER B-6-F31

## FIELD PROGRAM

One vapor monitoring well, B-6-F31-MV1, was installed to monitor subsurface conditions at Tank B-6-F31.

## VAPOR MONITORING WELL B-6-F31-MV1

Monitoring Installations - Vapor Monitoring Well B-6-F31-MVl was installed to monitor Tank B-6-F31, a 500-gallon gasoline tank used to fuel emergency pump generators. This tank was not included in the original Work Plan. Therefore, the drilling program was discussed at the site with Carol Kawamota of the RWQCB. Two unsuccessful attempts were made before the third was completed to 13 feet. The first two attempts struck a steel object 8 feet below ground surface. The actual location of the vapor monitoring well is indicated on the site map.

Sampling Intervals- Soil samples were taken from the well at a depth of 13 feet, which is consistent with the sampling intervals approved in the Work Plan for tanks of similar size and contents.

Field Observations - The medium grain size and medium brown color of the sand remained consistent throughout the entire 13 feet of the well.

Indications of possible contamination were based on observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination.

# LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The sample taken from Vapor Monitoring Well B-6-F31 the well was analyzed for hydrocarbons.

<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-F31.

Low levels of petroleum hydrocarbons ( 70.8~mg/kg ) were detected in the sample. This level is higher than the background levels.

#### CONCLUSIONS

Laboratory results show that 70.8 mg/kg of the material stored in the tank were found in the composite sample, suggesting that the tank may have leaked.

# TANK B-6-F31 (continued)

# RECOMMENDATION

Additional subsurface sampling and analysis should be conducted to further determine whether the origin of the contamination is from the leakage of the tank and to quantify the extent of contamination.

# TANK NUMBER B-6-F31 supplement

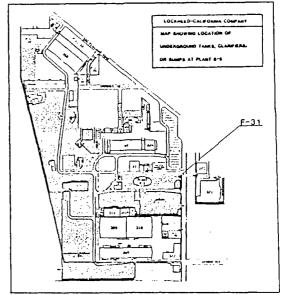
## ADDITIONAL INVESTIGATIONS

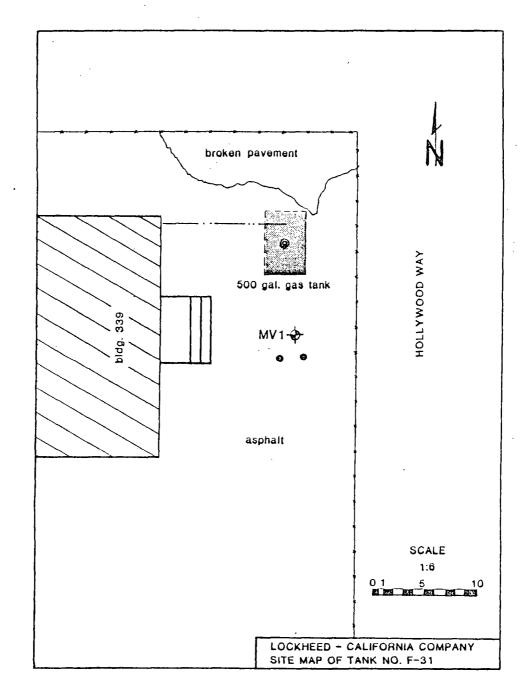
analysis of soil samples collected near Tank B-6-F31 during drilling indicated low levels the initial of petroleum hydrocarbons. To determine if the contamination in the soil is the result of tank leakage, Tank B-6-F31 was hydrostatically tested by Horner Creative Metals, Inc. of Kawkawlin, Michigan on June 11, 1985. The test is a hydrostatic evaluation and can detect leaks in the tanks and related piping systems with a level of detection of  $\pm 0.05$  gallons per hour. This is the required of detection according to National Fire level Prevention Authority (N.F.P.A.), #329. The results of the test (Appendix C) indicated that the tank is "certified tight" as is, not leaking within the accepted level of detection.

It is therefore concluded that the contamination present in the nearby soil did not originate from leakage of Tank B-6-F31. It is possible that the contamination may be the result of overfilling the tank or fugitive surface spillage that could penetrate through the broken pavement.

## FURTHER RECOMMENDATIONS

Proceed with quarterly monitoring of the vapor monitoring well.





PERFINENT CONSTRUCTION AND PROGRAM DATA

Tank No.		ŕ-31
Plant No./Near	est Bldg, ;	86/91ag. 339 (E Siser
Tank:		28v1 N. Huily#05e 4kg
	Installation Date i	
	Capacity, gal.	5,000
	Use/Process :	Pump fue:
	1	
	Contents (past,CAS No.,date):	Diesel 68334305
	(present,LAS No./ ;	Diesel a8334305
	; i	
	Construction Materials	Steel
	Segeetry :	Eylinorical
	Deptn la lap	Uni.
	beptn la lavera	Unr.
	Diameter	7 it
	Length (I)	17 ft
	Containment	None
	Corrosive Frotection (2)	UME
	Status	ln service
Tank Piping:	Number	Unk
	lγpe . :	UNA
	Construction Hat.	Steel
Site:	Paving Material/Iniciness	
		Area of disturbed
		asphalt around site
	Surface Contamination	Kone
Orilling		
frogram:		U U
	•	
	southis satisfies	
	Vapor mells/Lysimeters (No.)	! 
	sample depths	MA1/12 +¢
	; <u>-</u>	
	Completion interval	MV1/3-12.9 /t
		<del>-</del>
Laboratory Pr	ogram (4) : No. of Tank Content Samples :	<b>:</b> : 0
	Parameters	
	No. of Tank Soil Samples	1
	Parameters	Hydrocarbons

(ant No.		F-11
	rest Bldg.	Ba/Blog. 339 (E Side)
		2601 N. Hollymood day
	installation Date ;	
	Capacity, gal.	5,060
	Use/Process :	Pump ruei
	1	, and , and ,
	Contents (past,CAS Ho., vale);	Uresel od3143u5
	tpresent,CHS No. /	brasel onididor.
	; ;	
	Lunstruction Materials (	
	becaets y	Cylindrical
	Vepth la lup	nwy .
	beptn la lavert :	Lika
	Diameter	7 ft
	Length (1)	17 ft
	Containment	None
	Corrosive Protection (2)	UNA .
	Status ;	la Service
lank Fiping:	Number ;	UAA
	(ype :	UNA
	Construction Mat. :	Steel
Site:	Paviny Material/Itickness .	Aspnalt/5 in
	Appear ance	Area of disturbed aspnalt around site
	Surface Continuonation :	flone
Drillina	kig Type/kequirements (3) 3	n.S. Auger
Program:	Borings (Ng.)	
	Scaple begins :	·
	. Vapor mells/Lysimeters (No.1 :	1
	Sample Depths :	MV1/13 +t
	;	₩V1/3-12.¥ 4t
aboratory fr	rograe (4)	<i>t</i> .
	ma, of fant Content Samples (	Ú
	Parameters	
	Parameters :	
	Parameters :	1

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 -		34	Asphalt Silty sand, fine to coarse grain, some pebble, moist, brown  Pebbles 3 to 4 in thick and cobble
COMPLETION & BACKFILL				
-Blank 2-in I.D. PVC pipe, 0-3 ft -Screened 2-in I.D. PVC pipe, 3-12.9 ft -Concrete, 0-2 ft -Bentonite, 2-3 ft -Clean sand, 3-14 ft		NK NO.		<u>-F31</u> /ELL NO. <u>B-6-F31-MV</u> 1

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# TANK NUMBER B-6-F34 supplement

NOTE: Tank B-6-O was not a waste solvent tank as originally thought but a light starter fluid, a mix of diesel and gasoline. Thus Tank B-6-O was recatagorized as a fuel tank and renamed B-6-F34. The initial work performed however, has not been changed yet (see Tank Number B-6-O).

# ADDITIONAL INVESTIGATIONS

The analysis of soil samples collected near Tank B-6-F34 during initial drilling indicated low levels of the hydrocarbons. To determine if the contamination in the soil is the result of tank leakage, Tank B-6-F34 was hydrostatically tested by Horner Creative Metals, Inc. of Kawkawlin, Michigan on May 31, 1985. The test is a hydrostatic evaluation and can detect leaks in the tanks and related piping systems with a of detection of  $\pm$  0.05 gallons per hour. This is the required level of detection according to National Fire The results of the test Prevention Authority (N.F.P.A.), #329. (Appendix C) indicated that the tank is "certified tight" as is, not leaking within the accepted level of detection.

It is therefore concluded that the contamination present in the nearby soil did not originate from leakaage of Tank B-6-F34. It is possible that the contamination may be the result of overfilling the tank or fugitive surface spillage.

#### FURTHER RECOMMENDATIONS

Proceed with quarterly monitoring of the vapor monitoring wells.

#### TANK NUMBER B-6-F32

# FIELD PROGRAM

Two vapor monitoring wells, B-6-F3-MV1 and B-6-F3-MV2, were installed to monitor subsurface conditions at Tanks B-6-F32 and B-6-F3 which are located very close together. The approved Work Plan listed one tank labeled B-6-F3 at this location. It was later found, however, that there are actually two tanks of different orientation, the contents of which are similar, at this location. The westernmost tank retained the label B-6-F3 and the easternmost tank was labeled B-6-F32. The southern end of B-6-F32 is monitored by the well B-6-F3-MV1. This well is discussed under Tank B-6-F3.

Sampling Intervals - See discussion under Tank Number B-6-F3.

<u>Field Observations</u> - There were no indications of contamination. See discussion under Tank Number B-6-F3.

# LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The samples taken from Vapor Monitoring Wells B-6-F3-MV1 and B-6-F3-MV2 were composited and analyzed for hydrocarbons.

<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-F3. The level of hydrocarbons found in the samples was below the average background samples levels.

#### CONCLUSIONS

Both field and laboratory analysis results show that the suspected contaminants were below the average background levels. It is concluded that the tank is not leaking.

## RECOMMENDATION

Proceed with quarterly monitoring of the wells.

PARAMETER	1	1	SAMPLE I.D.
	IBACK IBROUND ISAMPLE	1	8-6-F33 HV1 & HV2 COMPOSITE
Volatile Organics (ug/kg)	!	N.A.	N.T.
Benzene	(0.2	i	
Carbon Disulfide	1 ,	;	
1,1 Dichloroethene	1 (0.1	1 3	
'	1 <0.5	i	
1	1 (0.4	1	
, ,	1 (0.2	i	
•	1 <0.3	* 2,040 t	
Chlorofora	1 <0.1	ì	
Toluene	\ ⟨û.4	¦ 	
Petroleum Hydrocarbon (mg/kg)		N.A. 3	17.0
Oil & Grease (mg/kg)	1 <1.0	N.A. :	N.T.
CAM Metals (mg/kg)	i	<u>-</u>	N.T.
Antimony	1 (2.5	500	
Arsenic	1 12.7	500	
Barius	1 43.4	10,000 6	
Beryllium	1 <1.0	75	
Cadwium	1 (0.5	100	
Chromium (Total)	6.3	2,500	
Cobalt	4.3	B,000 :	
Copper	8.6	250	
Lead	1 <2.5	1,000 1	
Kercury	1 <0.1	20 1	
Molybdenum	1 6.9	3,500	
Nickel	4.1	2,000	
Selenium	1 (2.5	100	
Silver	1 <2.5	50ú t	
Thallium	1 <2.5	700	
Vanadiuo	1 12.7	2,400	
Zinc	1 21.4	2,500	
Aluminum (mg/kg)	1 18.9	N.A. :	т.
Sodium (mg/kg)	i N.T.	N.A.	
Others		 	N.T.
Ηq	8.19	N.á. l	
Chloride (mg/kg)	i N.T.	N.A.	
Cyanide (mg/kg)	i N.T.	N.A.	
Flouride (#g/kg)	I N.T.	18,000	
Nitrate (mg/kg)	1 N.T.	N.A. 1	
Sulfate (mg/kg)	1 N.T.	N.A. (	

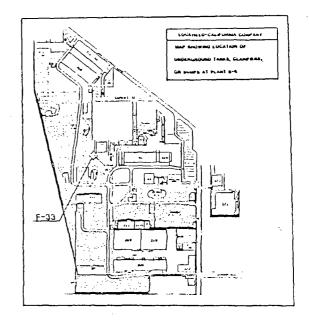
N.A. - NOT AVAILABLE

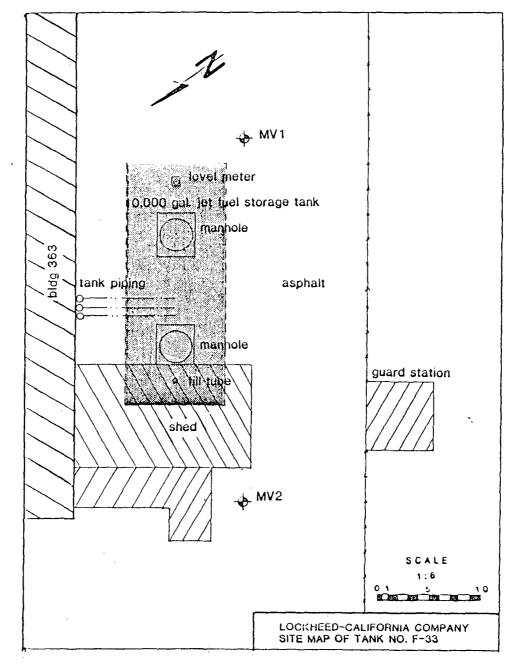
N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

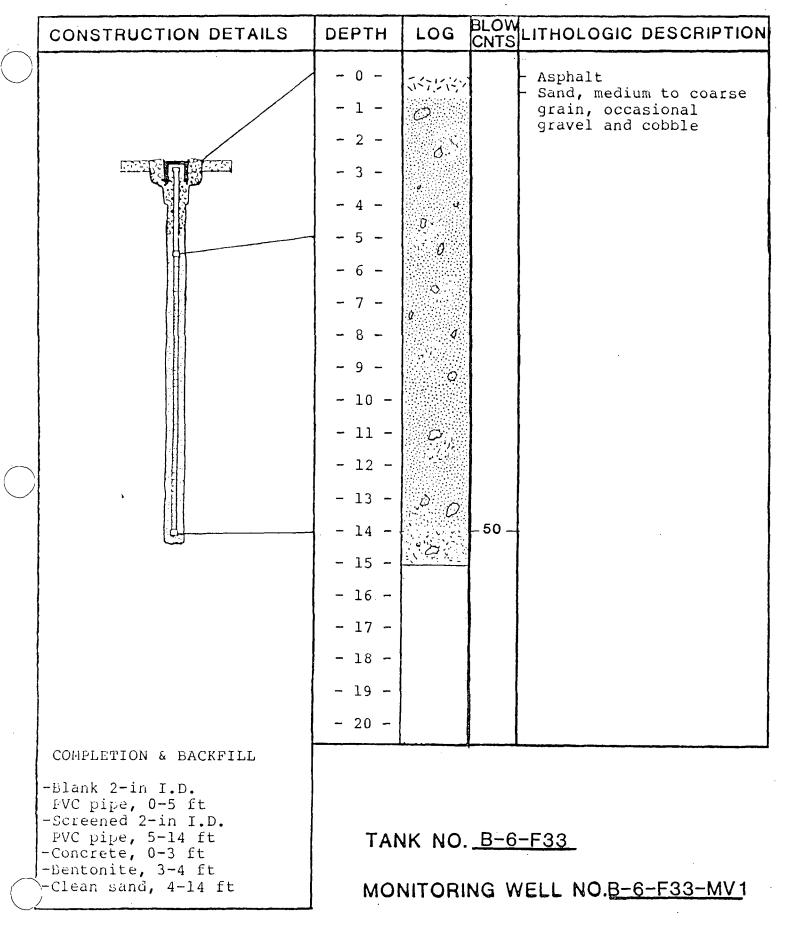
ag/kÿ





## PERTINENT CONSTRUCTION AND PROGRAM DATA

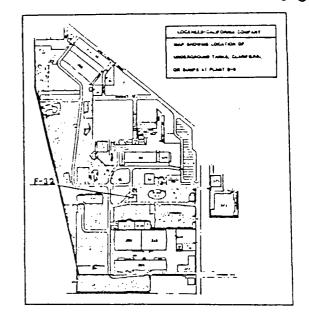
Tank No.	;	F-33 ;
Plant No./Neare	est Oldg.	86/81dg.3a3 (SW 51de)
Tank:	Location	2901 N. Hollywaga #ky
	Installation Date :	Uhk
	Capacity, gas.	10,000
	Use/Frocess :	JAK.
	¦ 	
	Contents (past,CAS ko.,date):	UNA.
	; ;	
<b>&gt;-</b>	(present,CAS No.)	Jet-A fuel
		<b>;</b> !
	Construction Materials	Steel
	Geometry	Cylindrical
	Depth To Top	UNK
	Vepch To lovert	UNK
	Diameter	9 ft
	Length (1)	23 ft
	Containment	Hone
	Corrosive Protection (2)	; L UMX
	Status	In service
Tank Piping:	Nueber	i Unx
	1798	I GAK
	Construction Mat.	Steel
Site:	Paving Material/Inictness	: Asphalt/7 in
	Appearance	600d
	Surface Contamination	hone
		! 
Drilling Program:		! H.S. Auger
	Borings (No.)	i ü
	Sample Deptns	i } ,
	•	
	Vapor Wells/Lysimeters (No.)	
	Sample Depths	1
		1
	Completion Interval	
		1
Laboratory Pri	ogram (4)	;
	No. of Tank Content Samples	0 
	Parameters	<b>!</b>
	No. of Tank Soil Samples	
	Parameters	Hydrocaroons
		1

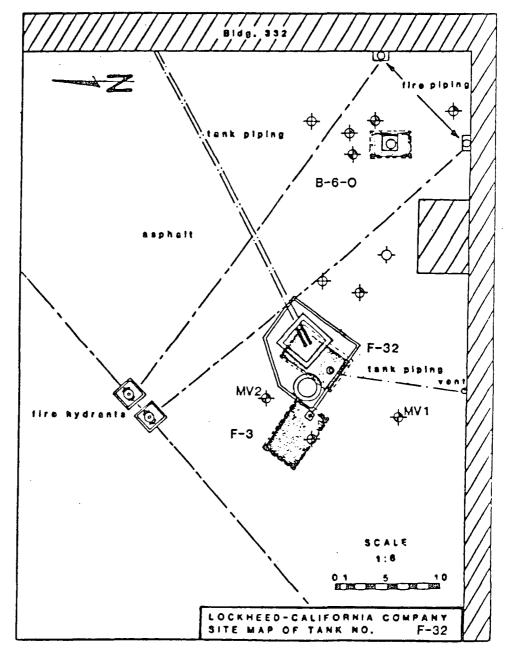


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CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 -		-50	- Asphalt - Sand, medium to coarse grain, occasional gravel - Occasional cobble
COMPLETION & BACKFILL  -Blank 2-in I.D.  PVC pipe, 0-5 ft  -Screened 2-in I.D.  PVC pipe, 5-14 ft  -Concrete, 0-3 ft  -Bentonite, 3-4 ft  -Clean sand, 4-14 ft		NK NO.		<u>-F33</u> /ELL NO. <u>B-6-F33-MV</u> 2

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PARAHETER	1	!	SAMPLE I.D.
	i IBACK	TTLC :	B-6-F31
	GROUND	1	HV1
	ISAMPLE	}	13-14 ft.
Volatile Organics (ug/kg)	<del></del>	N.A. 1	N.T.
Benzene	1 <0.2	1	
Carbon Disulfide	t	3 1	
1,1 Dichloroethene	1 (0.1)	·	
Methylene Chloride	1 (0.5	ì	
Perchloroethylene	1 (0.4	i	
1,1,1 Trichlorethane	1 (0.2	;	
Trichloroethylene	1 <0.3	# 2,040 l	
Chloroform	( <0.1	1 1	
Toluene	1 <0.4		
Petroleum Hydrocarbon (mg/kg)	: N.T.	N.A.	70.8
Dil & Grease (mg/kg)	1 <1.0	N.A. (	<b>H.</b> T.
CAM Metals (æg/kg)	¦	<b></b>	N.T.
Antimony	1 (2.5	500	
Arsenic	1 12.7	500	
Barium	43.4	10,000	
Beryllium	1 (1.0	75	
Cadmium	(0.5	100	
Chromium (Total)	1 6.3	2,500	
Cobalt	4.3	8,000	
Copper	6.6	250	
Lead	1 <2.5	1,000	
Mercury	1 (0.1	20	
Molybdenum	6.9	3,500 1	
Nickel	1 4.1	2,000	
Selenium	1 (2.5	100	
Silver	1 (2.5	500	
Thallium	1 (2.5	700 l	
Vanadium	1 12.7	2,400	
Zinc	1 21.4	2,500 1	
Aluwiwum (mig/kg)	18.9	N.A. i	N. T.
Sodium (mg/kg)	: N.T.	N.A. 1	
Others	1	<del>-</del>	
Ка	1 8.19	N.A. 3	
Chloride (mg/kg)	1 N.T.	N.A.	
Cyanide (ag/kg)	i N.T.	N.A.	
Flouride (mg/kg)	: N.T.	18,000	
Nitrate (mg/kg)	i N.T.	N.A.	
Sulfate (mg/kg)	1 N.T.	N.A. 1	

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

r nig/kg

PERTINENT CONSTRUCTION AND PROGRAM DATA

		f-32
Plant No./Neare		86/81dg. 332 (Nm Sider :
Tank:		
	Installation bate	Pre-1945 :
	Capacity, gal.	2,500
	Use/Process	Boiler fuel :
	Contents (past,CAS No.,date)	Gresel #2 Barter : 68334365 :
	igresent,CAS Mo.)	Ølesel #2 boiler : 68334305 :
		; ;
		Steel
		Cylinorical :
	Depth To Top	4 ft :
	Depth To Invert	9.15 ft :
	Drameter	5.15 ft i
	Length (1)	11 ft i
	Containment	i None .
Corrosive Protection (2)		: Ext. costes :
	Status	l in service .
Tank Piping: Number		UNY.
	Туре	Unk
	Construction hat.	Steel
Site:	Paving Material/Thickness	; Aspnalt :
	Appearance	 
	Surface Contamination	1
Drilling Program:	Rig I/pe/Requirements (3)	1 H.S. Auger
		l
	Sample Depths	}   
	Vapor Weils/Lysimeters (No.)	
	Sample Depths	NOTE: REFERENCE TO F-3- WV1
	Completion Interval	
Laboratory Pr		l
Laboratory Pr	No. of Tank Content Samples	; 0
	Parameters	1
	No. of Tank Soil Samples	REF. TO B-5-F3
	rdf ameter 5	<u>.</u>

#### TANK NUMBER B-6-F33

#### FIELD PROGRAM

Two vapor monitoring wells, B-6-F33-MVl and B-6-F33-MV2, were installed to monitor subsurface conditions at fuel Tank B-6-F33.

#### VAPOR MONITORING WELL B-6-F33-MV1

Monitoring Installations - Vapor Monitoring Well B-6-F33-MVl was installed as indicated on the site map. This tank, a 10,000 gallon proprietary fuel tank, was not included in the approved Work Plan. The drilling program for the tank was discussed in the field with Mr. Al Novak of the RWQCB.

Sampling Intervals - Soil samples were taken from the well at a depth of 14 feet.

Field Observations - The medium to coarse grain size and medium brown color of the sand remained consistent throughout the entire 14 feet of the well. The occurrence of cobbles remained sporadic throughout the well.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination.

#### VAPOR MONITORING WELL B-6-F33-MV2

Monitoring Installations - Vapor Monitoring Well B-6-F33-MV2 was installed as indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken from the well at a depth of 14 feet.

Field Observations - The medium to coarse grain size and medium brown color of the sand remained consistent throughout the entire 14 feet of the well. The occurrence of cobbles remained sporadic throughout the well.

There were no indications of contamination.

## LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The samples taken from Vapor Monitoring Wells B-6-F33-MV1 and B-6-F33-MV2 were composited and analyzed for hydrocarbons.

<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-F33.

Low levels of petroleum hydrocarbons ( 17 mg/kg ) were detected in the sample.

# TANK B-6-F33 (continued)

# CONCLUSIONS

Based upon field and laboratory analysis and field observations, it is concluded that the tank is not leaking. The low concentrations (17 mg/kg) of petroleum hydrocarbons are more likely due to surface spills and other surface sources. If the tank were leaking, the levels of contaminants in the soil would be expected to be much higher.

# RECOMMENDATION

Proceed with quarterly monitoring of the wells.

APPENDIX B

NON-FUEL TANKS

SUMP WITH PUMP-OUT PORT
3 STAGE CLARIFIER
TANK LOCATION
BUILDING OR LARGE PERMANENT STRUCTURE
ABOVE GROUND PIPING
UNDERGROUND UTILITIES:
ELECTRIC LINE
WATER PIPE
SEWER PIPE
NATURAL GAS LINE
TANK PIPING
UNIDENTIFIED PIPING
COMPRESSED AIR
PROGRAM ACTIVITIES: AS PLANNED
VAPOR MONITORING WELL
SUCTION LYSIMETER
AS COMPLETED
40-FOOT SOIL BORING
VAPOR MONITORING WELL
SUCTION LYSIMETER
VAPOR MONITORING WELL/SUCTION LYSIMETER

# TANK NUMBER B-6-B

# FIELD PROGRAM

Two borings and two suction lysimeters were drilled/installed to monitor subsurface conditions at boiler blowdown Tank B-6-B.

## BORING B-6-B-B1

Monitoring Installations - Boring B-6-B-Bl was drilled slightly south of the approved location due to rig access problems, and the inability to drill through the thickness of concrete present at the originally approved location. Two locations were drilled before a successful depth was reached. The first attempt struck a steel pipe 11 feet below ground surface. Both the actual and approved locations of the boring are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken from Boring B-6-B-Bl at depths of 5, 17, 22, 30, and 40 feet, as approved in the Work Plan.

Field Observations - The medium grain size and brown color of the sand remained consistent throughout the first 30 feet of Boring B-6-B-Bl. At 30 feet the sand became coarser, and the gravel and cobble fraction increased. The frequency of cobbles increased at 4 feet and continued to 10 feet. From 30 through 40 feet the color changed slightly from brown to variegated light brown which corresponds with the general grain size increase at the same depth.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The soil from just below the surface to 30 feet had a strong odor indicating possible contamination. The odor disappeared completely at 35 feet.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in three, 55-gallon drums approved for storage of hazardous waste.

# BORING B-6-B-B2/SUCTION LYSIMETER B-6-B-SL1

Monitoring Installations — Boring B-6-B-B2 was drilled north and west of the approved location due to rig access problems and proximity to overhead power lines. The slant boring, as was approved in the Work Plan, was not completed due to the preponderance of cobbles in the subsurface. The inability to predict the direction of deflection of the auger stem after it strikes a cobble presents an additional element of danger in an area of unknown underground pipe systems. Boring B-6-B-B2 replaces the slant boring. The boring was backfilled to 12 feet and Suction Lysimeter B-6-B-SLl placed at 11 feet as shown in the construction diagram.

# TANK B-6-B (continued)

Sampling Intervals - Soil samples were to have been collected at depths of 6, 17, 22, 30 and 40 feet, according to the Work Plan. However, interference from intermittent cobbles necessitated shifting the sample intervals to 5, 10, 18, 32, and 40 feet. Based on the absence of layers of low permeability in the upper portion of the soil horizons, and the loose, highly conductive nature of sand that predominates the lithology, it is unlikely that a slight variance in sampled intervals will significantly alter the chemical concentration profile of the soil. The 22-foot sample was not attempted due to a large number of cobbles at that depth.

Field Observations - The medium grain size and brown color of the sand remained consistent throughout the entire 40 feet of Boring B-6-B-B2. The frequency of cobbles increased at 24 feet and continued to 28 feet.

There were no indications of contamination.

#### SUCTION LYSIMETER B-6-B-SL2

Monitoring Installations-Suction Lysimeter B-6-B-SL2 was installed slightly south and east of the approved location due to rig access problems, and proximity to overhead power lines.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 12 feet, as approved in the Work Plan.

<u>Field Observations</u> - The medium grain size and medium brown color of the sand remained consistent throughout the entire 12 feet of the suction lysimeter.

There were no indications of contamination.

# LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - The liquid sample collected from the tank was analyzed as approved in the Work Plan. Based on field observations indicating the potential presence of organic contaminants in the soil samples from Boring B-6-B-SLl, the soil samples were analyzed for volatile organics. Individual depth samples from Boring B-6-B were analyzed for pH.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-B. The levels of metals found in the liquid sample were all in the sub to low range. A total of four volatile organics were detected in the soil samples, suggesting that the soils are contaminated. The volatile organics concentrations levels range from a low of 14 ug/mg of 1,2 dichloroethene to a high of 34 mg/kg of carbitol.

Tank B-6-B (continued)

# CONCLUSIONS

Laboratory results show medium concentrations of alcohols (34 mg/kg) and traces of halocarbons, indicating the soils were contaminated. The tank was installed in 1979 and has been used as a boiler blowdown storage tank. There is no record/indication that the tank has been used for storing any of the alcohols found in the soil samples. Field observations show evidence of overflowing from the tank. Thus, it is likely that the origin of contamination is from other sources such as surface spills rather than leakage from the tank.

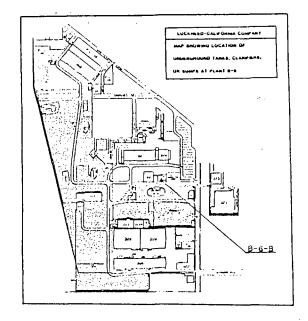
# RECOMMENDATION

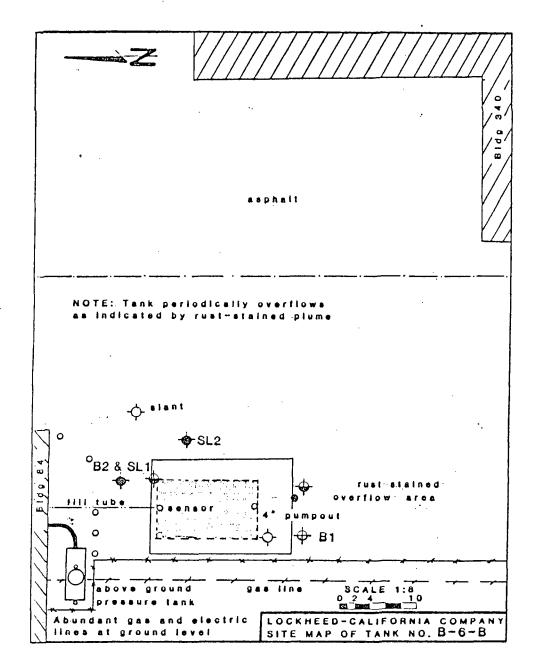
Proceed with quarterly monitoring of the wells.

TANK NUMBER B-6-B supplement

# ADDITIONAL INVESTIGATIONS

The analysis of soil samples collected near Tank B-6-B during the initial drilling indicated low to moderate levels of several volatile organic substances. To determine if the contamination in the soil is the result of tank leakage, Tank B-6-B was scheduled for a tank integrity test. However, the tank was only one fifth full during field operations. Thus, the tank integrity test will be rescheduled once the tank is full.

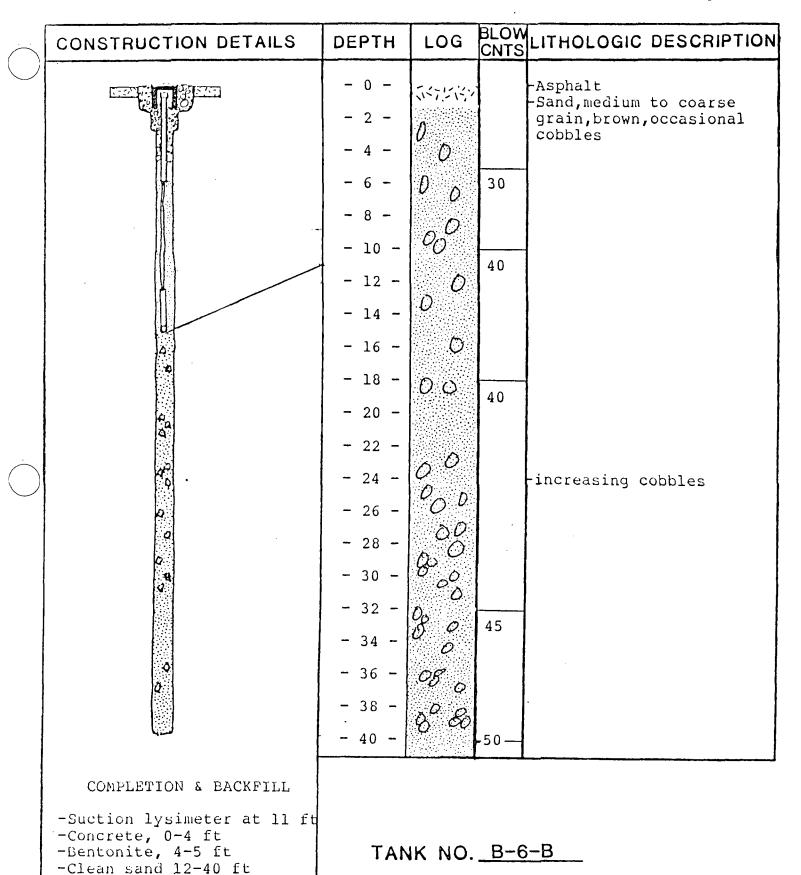




## PERTINENT CONSTRUCTION AND PROGRAM DATA

lank No.	!	₿- <b>∆</b> -₿
lant No./Neare	st Bidg.	B6/Blag. B4 (S Sider
lank:	Location	2801 M. Hallywood Bay
	Installation Date	1979
	Capacity, gal.	5, bud
	Use/Process	
	1	201111 210112111
	Contents (past,CAS No.,date)	UNA
	(present,CAS Mo.)	Concentrated intake wate
	Construction Materials	Hild steel
	Geometry	Cylindrical
	Depth To Top	4.6 ft
	Depth to Invert	12,35 ft
	Diameter	7.75 ft
		13.5 ft
	Length (1)	; <u></u>
	Containment	
	Corrosive Protection (2)	lint, coated/Ext. paints
	Status	i Uhk i
lank Piping:	Number	UNK
	Туре	UNK
	Construction Mat.	UNK
Site:	Paving Material/Thickness	
	Appearance	: Asphalt stained t, i iron solution
	Surface Contamination	See above
Drilling	Rig Type/Requirements (3) Borings (No.)	H.S. Auger
Program	Barings (No.)	2
	Sample Depths	i   B1/5,17,22,30,40 et   B2/5,10,18,32,40 ft 
	Vapor Wells/Lysimeters (No.)	2
	Sample Depths	SL1/12 ft SL2/REF. TO B2
	completion interval	SL1/10 ft SL2/11 ft
Laboratory Pro	igram (4) No. of Tank Content Samples	ì
	Parameters	
	No. of Pank Soil Samples	\$ \$(Comp.)
	Parameters	pH,Sulfate,Vol.Grg.

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
		- 0 -	ふくとらく		-Asphalt
	860 (2)	- 2 -	hasanaa ka		Sand, sand to cobbles, red brown, strong solvent
	100 100 100	- 4 -	0 00		odor
		- 6 -	000	40	
		- 8 -	0 0 0		
		- 10 -	000		·
		- 12 -	0		
		- 14 -	0		cobbles decreasing with
		- 16 -	0		depth
		- 18 -	co Co	45	
		- 20 -			
_		- 22 -	٥	40	Sand, medium grain,
		- 24 -	0 0	10	w/pebbles,variegated, slight odor
		- 26 -	D		SIISHC OUOI
		- 28 -	0		
į		- 30 -	00	-50 —	-Color change
İ		- 32 -			odor fades with depth
		- 34 -	00		
		- 36 -	000		
		- 38 -			
		- 40 -		-50	
	COMPLETION & BACKFILL				•
	-Asphalt, 0-0.5 ft -Concrete, 0.5-4 ft				
	-Bentonite, 4-5 ft -Clean sand, 5-40 ft	TANK NO. B-6-B			
		BORING NO. <u>B-6-B-B1</u>			



BORING NO.B-6-B-B2

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	CONSTRUCTION DETAILS	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 -			-Asphalt -Sand, medium to coarse brown to variegated, w/pebbles & cobbles
j					

# COMPLETION & BACKFILL

- -Suction lysimeter at 10 ft -Concrete, 0-4 ft

- -Bentonite, 4-5 ft -Clean sand, 5-7 ft
- -Clean sand & native mix 7-12 ft

TANK NO. B-6-B

SUCTION LYSIMETER NO. B-6-B-SL1

PARAMETER	1		SAMPLE I.D.					1.0.	
	IBACK IGROUND ISAMPLE	TTLC	F1601D   P-9-B	B-6-B	B-6-B B2 18 ft.	B-6-B B2 32 ft.	B-6-B B2 40 ft.	8-6-B SL2 12 ft.	
Volatile Organics (mg/kg)	;	N.A.	: N.T.	N.T.	н.Т.	N.T.	N.T.	<b></b>	
Acetone	I N.T.		! <b>\$</b>					⟨1.0	
Carbon Tetrachloride	i N.T.		! !					0.047	
Carbitol	I N.T.		3 1					34.0	
Isopropyl Alcohol	1 N.T.		1					(0.1	
2-Hexanone	1 1.7.		<b>!</b>					(5.6	
1,2-Dichloroethylene	N.T.		ì					0.014	
Ethyl Acetate	ו.א. ו.		ì					(0.3	
Cellusolve Acetate	1 N.T.		ļ					15.0	
Methyl Ethyl Ketone	: N.T.		ł					(2.0	
Methyl Isobutyl Ketone	1 N.T.		ì					<1.0	
Petroleum Hydrocarbon (mg/kg)	: N.T.	N.A.	h.T.	N.T.	N.T.	ж.т.	N.T.	N.T.	
Oil & Grease (mg/kg)	(1.0	N.A.	i N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	
CAM Metals (mg/kg)			:	N.T.	N.T.	N.T.	N. T.	N. T.	
Antimony	1 <2.5	500	l N.D.						
Arsenic	1 12.7	500	i N.D.						
Barium	1 43.4	10,000	0.45						
Berylliu≡	1 <1.0	75	i N.D.						
Cadmium	1 (0.5	100	0.05						
Chromium (Total)	1 6.3	2,500	0.01						
Cobalt	4.3	8,000	0.12						
Copper	1 B.6	250	0.95						
Lead	1 (2.5	1,000	0.09						
Mercury	1 <0.1	20	1 0.0003						
Holybdenum	1 6.9	3,500	I N.D.						
Nickel	4.1	2,000	0.65						
Selenium	1 (2.5	100	0.0004						
Silver	1 <2.5	500							
Thallium	1 (2.5	700	0.13						
Vanadium	1 12.7	2,400	0.07						
Zinc	1 21.4	2,500	6.54						
Aluminum (mg/kg)	1 18.9	N.A.	: N.T.	N.T.	N.T.	N.T.	. T. N. T.	N.T.	
Sodium (mg/kg)		N.A.	! N.T.	N.T.	N.T.	н.Т.	N.T.	N.T.	
Others	1		!						
Н	8.19	N.A.		6.7û	7.40	7.10	7.90	7.60	
Chloride (mg/kg)	I N.T.	N.A.		N.T.	н.Т.	N.T.	И.Т.	н.Т.	
Cyanide (mg/kg)	I N.T.	N.A.		и.Т.	N. I.	N.T.	N.T.	N.T.	
Flouride (mg/kg)	N.T.	18,000		Ν.Τ.	N.T.	N.T.		N.T.	
Nitrate (mg/kg)	i N.T.	N.A.		и.Т.	N.T.	N.T.		N.T.	
Sulfate (mg/kg)	I N.T.	N.A.	: N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

<sup>≠</sup> mg/kg

## TANK NUMBER B-6-C

As initially approved, this facility was to be inspected. Further discussion with Lockheed personnel, however, indicated that the necessary arrangements required for inspections would significantly impact normal process operations. Alternate monitoring programs have been discussed recently with Mr. Al Novak, RWQCB, and will likely involve drilling, sampling, and installation of a monitoring device such as a vapor monitoring well or a suction lysimeter. Exact program plans will be submitted for this facility by February 1, 1985.

PERTINENT CONSTRUCTION AND PRUGRAM DATA

		J-a-è
lant No./Nearest Big.		bo/bldg. 347 ilnsice-5)
Tank:	Location	2801 M. Hollywood Way
	Installation Date	1981
	Capacity, gal.	1,000
	Use/Process	Emergency spill
		containment
	Contents (past,CAS No.,date)	UNK
	!	
	(present,CAS No.)	Empty
		\ 
	Construction Haterials	Mild Steel
	Geometry	Hectangular
	Depth To Top	UHA
	Depth To Invert	3.6 it
	Diameter	See Map
	•	See Mag
	Containment	i kone
	Corrosive Protection (2)	Int. coated/Ext. painte
	Status	In service
Tank Pipin	•	l UNA
	Туре	i UNK
	Construction Mat.	i unx
Site:	Paving Material/Thickness	
		1
	Surface Contamination	i unu.
brilling	Rig Type/Requirements (3)	l Inspection
Program	Borings (No.)	
	Sample Vepths	
		1
	Vapor Wells/Lysimeters (No.)	
	Sample Depths	
		1
	Completion Interval	
		1
Laboratory F	Program (4)	
report at CITY P	No. of Tank Content Samples	
	Farameters	
	***********************	
	No. of Tank Soil Samples	

## TANK NUMBER B-6-E

As initially approved, this facility was to be inspected. Further discussion with Lockheed personnel, however, indicated that the necessary arrangements required for inspections would significantly impact normal process operations. Alternate monitoring programs have been discussed recently with Mr. Al Novak, RWQCB, and will likely involve drilling, sampling, and installation of a monitoring device such as a vapor monitoring well or a suction lysimeter. Exact program plans will be submitted for this facility by February 1, 1985.

A liquid sample of the tank's contents was collected for laboratory analysis. The results are summarized in Table B-6-E.

PARAMETER	1		ISAMPLE I.D.		
•	i I BACK	TTLC	i	B-6-E	
	GROUND			LIQUID	1
	SAMPLE		!		
Organic Solvents (mg/kg)	1	N.A.			
Isobutyl Acetate	i N.T.		ì	N.D.	
Acetone	1 N.T.		ŀ	4.3	
Methanol	: N.T.		1	TRACE	
Isobutyl Alcohol	1 .		l	N.G.	
Isopropanol	1 N.T.		ŀ	TRACE	
Methyl Ethyl Ketone	1 N.I.		ì	3.6	
Methyl Isobutyl Ketone	t N.T.		} 	N.D.	_
Petroleum Hydrocarbon (mg/kg)		N.A.	ŀ	N.T.	
Oil & Grease (mg/kg)	(1.0	N.A.	¦ 	₩.T.	
CAM Metals (mg/kg)	1		1		
Antimony	1 (2.5	500	ì	N.D.	
Arsenic	1 12.7	500	1	N.D.	
Barium	1 43.4	10,000	1	Ù.41	
Beryllium	1 (1.0	75	i I	N.D.	
Cadmium	1 (0.5	100	i.	0.01	
Chromium (Total)	1 6.3	2,500	ì	0.40	
Cobalt	1 4.3	8,000	ì	0.01	
Capper	8.6	25ò	1	0.02	
Lead	1 <2.5	1,000	1	N.D.	
Hercury	₹ <0.1	20	-	0.0004	
Nolybdenum	6.9	3,500	1	N.D.	
Nickel	4.1	2,000	1	0.0004	
Selenium	1 (2.5	100	1	0.0004	
Silver	1 <2.5	500	ł	N.D.	
Thallium	1 (2.5	700	i	N.D.	
Vanadium	1 12.7	2,400	1	0.07	
Zinc	1 21.4	2,500	ł	0.35	
Aluminum (mg/kg)	: 18.9	N.A.		N.Đ.	-
Sodium (mg/kg)	I N.T.	N.A.	 	N.D.	_
Others	!				_
ρН	8.19	N.A.	1	9.19	
Chloride (mg/kg)	1 N.T.	N.A.	ŀ	N.T.	
Cyanide (æg/kg)	1 N.T.	N.A.	1	N.T.	
Flouride (ag/kg)	1 N.T.	18,000	1	N.T.	
Nitrate (mg/kg)	1 N.T.	Ń.A.		N.T.	
Sulfate (mg/kg)	: N.T.	N.A.		N.T.	

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

<sup>± &</sup>lt;u>ang</u>/ko

lank No.		k-o-£
lant No./Near	est Bidg.	86/81ag. 349 (Inside)
Tank:	Location	2501 N. Hollywood May
	Installation Date	1481
		1,500
	Use/Process	Recirculating water wail for paint spray tootn
	Contents (past,CAS No.,date)	
	(present,CAS No.)	l 
	Construction Materials	; ; ; Concrete
	Geodetry	: Rectanguiar
		i UNK
	Depth la lop	
	Depth To Invert	4.1 it
	Diameter	
	Length (1)	i 40.6 ft
	Containment	None
	Corrosive fratection (2)	; UNK
	Status	In service
Tank Piping		t unk
	Туре	t UNK
	Construction Mat.	i i bak :
Site:	Faving Material/Unickness	
	Appearance	! ! !
	Surface Contamination	Uhk I
Drilling Program	Rig Type/hequirements (3)	
•	borings (No.)	· · ·
	Sample Depths	i i
	Vapor Wells/Lysimeters (No.)	1 0
	Sample Depths	; ;
	Completion Interval	; ; ;
Laboratory fr	No. of Tank Content Samples	2
	Parameters	CAM,pH
	No. of Tank Soil Samples	

#### TANK NUMBER B-6-F

On December 27, 1984, this seven-stage clarifier was inspected evidence of leakage, in accordance with the approved Work The second stage from the south end of the clarifier was visually inspected from the inside. The bottom of this stage was covered with 5 to 10 inches of silty sediment and about 4 so the bottom was obscured from view. The four containing walls, which are coated on the inside with Hunter Process polymuforic resin, did not show any signs of cracking. However, substances on the surfaces of the walls, especially those on the stage-dividing walls, could be scraped easily. These substances are likely to be chemical precipitates (such as calcium carbonate) and would not cause any leaks in the clarifier. The precipitate deposited on the stage-dividing walls was approximately 1/8" thick, and may have prevented a thorough inspection of the underlying concrete. However, the two containment walls, which have much less precipitate deposited on them, could be seen clearly and showed no evidence The remaining six stages of the clarifier were of cracking. inspected from ground level by lowering a drop-light into the individual stages. These stages, almost identical in their appearance and condition to the previously-inspected one, also showed signs of chemical precipation on the walls. No evidence of cracking or leaking in any of these six stages was found.

Tank No.		6-a-F
Plant No./Heare		B6/81dg. 353 ([nside)
		2801 N. Hollywood way
14/12.		
	Installation Date	1981
	Capacity, gal.	3,000
		Ularifier, metal rinsing : waste water
	Contents (past,CAS No.,dater	Final rinsemater
		1
		: Phosphoric HCIA 762432
		ISodium Hydroxide 1010/3 ISodium Bisolfite 7o319v
		<b>;</b> ;
	Construction Materials	
	,	i Rectangular (o-stage)
	Depth To Top	i
	Depth lo Invert	i I Iv.8 ft
	Dianeter	l 2.9 ft wioth
	Length (1)	l Tiý ft
	Containment	i None
	Corrosive Protection (2)	 
	Status	
Tank Piping:		UNA
· · · · · · · · · · · · · · · · · · ·		
	Түре	i UNK
	Construction Mat.	i UNI.
Site:	Paving Material/Thickness	Concrete
	Appearance	
		{ 
	Surface Contamination	; hone
Drilling Program	Kig Type/Requirements (3)	inspection
-3	Borings (No.)	;
	Sample Depths	;
	Vapor Weils/Lysimeters (No.)	
		!:
		<b>!</b>
	Completion Interval	;
		:
Laboratory Proc		
,	No. of Tank Content Samples	
	Parameters	i
	No. of Tank Soil Samples	
	Parameters	.i. .i.
		1

## TANK NUMBER B-6-G

As initially approved, this facility was to be inspected. Further discussion with Lockheed personnel, however, indicated that the necessary arrangements required for inspections would significantly impact normal process operations. Alternate monitoring programs have been discussed recently with Mr. Al Novak, RWQCB, and will likely involve drilling, sampling, and installation of a monitoring device such as a vapor monitoring well or a suction lysimeter. Exact program plans will be submitted for this facility by February 1, 1985.

ant No./Near	est Blag.	bo/Blag. 371 (Inside-S)
Tank:		
	installation Date	
	Capacity, gal.	
		Clarifier, metal cieacio and pressure test maste :
	Contents (past,CAS No.,date)	kerosene emulsion 6052413
	(present,CAS Mo.)	Kerasene emulsion B052413 Bilute Chromic Acid 7736945
	Construction Materials	Concrete
	6eometry	:   Rectangular (3-stage)
	Depth To Top	t UNA
	Depth To Invert	1 1
	Diameter	
	Lengta (1)	12.2 +t
	Containment	l None
	Corrosive Protection (2)	i Uke
	Status	i in service
Tank Piping	: Nueter	i Ulie.
	Type	; ; UNK
	Construction Mat.	UNA
Site:	Paving Material/Inichness	i Concrete
	Appear ance	Bood :
	Surface Contamination	; UNX
Drilling Frogram	Rig Type/Requirements (3)	
	Borings (No.)	
	Sample Depths	i { 
	Vapor Wells/Lysimeters (No.)	; ; ;
	Sample Depths	
		:
	Completion Interval	! :
		; ;
Laboratory Pr		1
	Parameters	
	No. Of Tank Soil Samples	
		.\

## TANK NUMBER B-6-H

## FIELD PROGRAM

One suction lysimeter, B-6-H-SLl, was installed to monitor subsurface conditions at boiler blowdown Clarifier B-6-H.

#### SUCTION LYSIMETER B-6-H-SL1

Monitoring Installations — Suction Lysimeter B-6-H-SLl was installed slightly east of the approved location due to a buried concrete conduit possibly containing high voltage lines. Two attempts were made to install the suction lysimeter to the planned depth, before the third attempt was successful. The first attempt struck steel concrete at 2 feet below ground surface, and the second attempt struck steel at 3 feet. Both the actual and approved locations of the suction lysimeter are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 12 feet, as approved in the Work Plan.

<u>Field Observations</u> - The medium to coarse grain size and brown color of the sand remained consistent throughout the boring. The frequency of cobbles increased at 3 feet and continued to 5 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination.

#### LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The sample from B-6-H-SLl was analyzed for pH and sulfate.

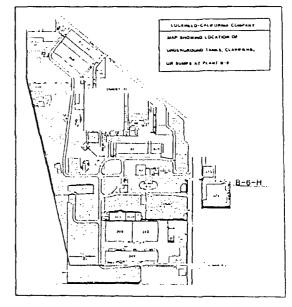
<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-H. The levels of contaminants found in the samples were all below or comparable to the average background samples levels.

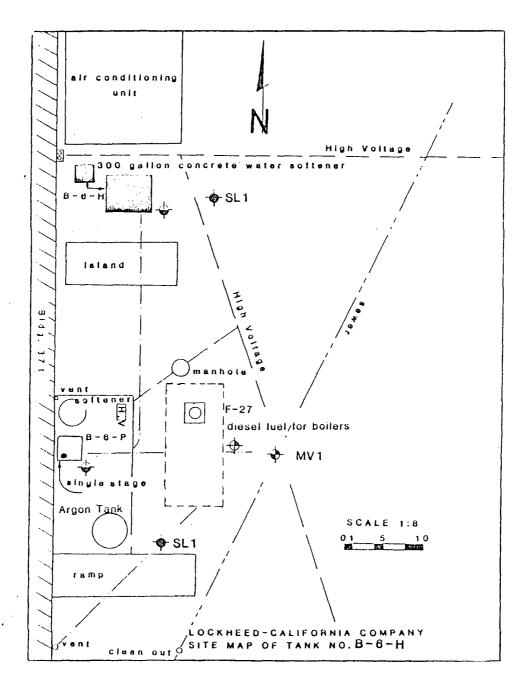
#### CONCLUSIONS

Both field and laboratory analysis results show that the suspected contaminants were below detection limits or were comparable to the average background levels. It is concluded that the tank is not leaking.

### RECOMMENDATION

Proceed with quarterly monitoring of the wells.





lank No.	1	B-o-h
Flant No./Neare	•	Bo/Oldg. 371 (E Side) ;
lank:		Thut N. Hallywood Way i
	Installation Date	Pre-1950
	Capacity, gal.	300
	Use/Process :	Clarifier, boiler & blowdown
	Contents (past,CAS No.,date)	Salt brine 7a47145
	(present,CAS No.)	boiler blomoom: Salt Brine 7547145
	Construction Materials	Concrete
	Geometry	Square (1-stage)
	Depth to Top	LINK
	Deptn la Invert	5.5 ft
	Diameter	5.6 ft width
	Length (1)	5.0 ft
	Containment	l None
	Carrosive Protection (2)	t unx
	Status	l la service
Tank Piping:		t une.
	Туре	i UNK
	Construction Mat.	Un.
Site:	Paving Material/Iniciness	·
	Appearance	Disturbed Aspnait hith concrete islands
	Surface Contamination	i Unk
Drilling Program	Rig Type/Requirements (3)	H.S. Auger
	Barings (No.)	! U
	Sample Deptns	; ;
	Vapor Wells/Lystmeters (No.)	1
	Sample Depths	
	Completion Interval	5L1/I0 ft
Laboratory Pr	ogram (4) No. of Tank Content Samples	
	Farameters	i
	No. of Tank Soil Samples	· · · · · · · · · · · · · · · · · · ·
	Parameters	pH,Sulfates
		1

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
		- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 -		50	-Concrete -Sand, medium to coarse grain, brown, w/pebbles to cobbles -Abundant cobbles
ı	COMPLETION & BACKETT				

COMPLETION & BACKFILL

- -Suction lysimeter, at 10 ft
- -Concrete, 0-4 ft
- -Bentonite, 4-5 ft -Clean sand, 5-7 ft
- -Clean sand & native mix, 7-13 ft

TANK NO. B-6-H

SUCTION LYSIMETER NO. B-6-H-SL1

PARAMETER	1		(SAMPLE I.D.		
	: :BACK	TTLC	1		
	GROUND	1100	! SL1		
	ISAMPLE		1 12-13 ft.		
Volatile Organics (ug/kg)	1	N.A.	ו.א. :		
Benzene	1 (0.2		1		
Carbon Disulfide	1				
1,1 Dichloroethene	1 (0.1		i		
	(0.5		•		
<b>,</b>	1 (0.4		•		
•	1 (0.2	. 5 .4.			
Trichloroethylene	1 (0.3	¥ 2,040	1		
Toluene	(0.4		: 		
Petroleum Hydrocarbon (mg/kg)	i N.T.	N.A.	l N.T.		
Oil & Grease (ag/kg)	1 (1.0		i N.T.		
CAM Netals (mg/kg)	1 /0 5	<b>r</b> oo	1 N.T.		
Antimony	1 (2.5	500	i		
Arsenic	1 12.7	500	•		
Barium	1 43.4	10,000	•		
Beryllium	1 (1.0	75	<b>i</b>		
Cadmium	(0.5	100	1		
Chromium (Total)	6.3	2,500	i		
Cobalt	1 4.3	8,000	•		
Copper	8.6	250	1		
Lead	1 (2.5	1,000			
Mercury	1 (0.1	20 7. s : a	i		
"Nolybdenum	1 6.9	3,500	ì		
Nickel	1 4.1	2,000	i .		
Seleniua n:1	1 (2.5	100	i		
Silver	1 (2.5	500	i .		
Thallium	1 <2.5	700	i		
Vanadium Zion	12.7	2,400	i		
Zinc	1 21.4	2,500 	·		
Álumainum (ag/kg)	1 18.9	N.A.	: N.T.		
Sodium (mg/kg)	i N.T.	N.A.	i N.T.		
 Others			!		
ρH	8.19	N.Á.	7.4		
Chloride (mg/kg)	. N.T.	N.A.	1 N.T.		
Cyanide (ag/kg)	1 N.T.	N.A.	i N.T.		
Flouride (mg/kg)	N.T.	18,000			
Nitrate (mg/kg)	N.T.	N.A.	i N.T.		
Sulfate (mg/kg)	i N.T.	N.A.	14.1		

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

eg/kg

As initially approved, this facility was to be inspected. Further discussion with Lockheed personnel, however, indicated that the necessary arrangements required for inspections would significantly impact normal process operations. Alternate monitoring programs have been discussed recently with Mr. Al Novak, RWQCB, and will likely involve drilling, sampling, and installation of a monitoring device such as a vapor monitoring well or a suction lysimeter. Exact program plans will be submitted for this facility by February 1, 1985.

Tank No.	;	b-6-1
lant No./Near	est blaa.	   86/81dg. 360 (lnsice-3W)
lank:		28ul M. Holly∍oud May
	Installation Date	1957
	Capacity, gal.	300
	Use/Process	Clarifier, final metal cleaning rinsewater
	Cuntents (past,CAS No.,date)	Urlute Chromic Acid 7758945
	(present,CAS No.)	: : Dilute Chromic Acid : 7/38945 :
	Construction Materials	; Cancrete
	Geometry	;   Rectangular (3-stage)
	Depth To Top	t unk
	bepth To Invert	5.1 it
	Diameter	1 4.4 ft midth
	Leagth (1)	1 13.5 ft
		1
	Containment	None
	Corrosive Protection (2)	i UNA.
	Status	ln servace
Tank Piping:	Number	UNA
	Type	LINK
	Construction Mat.	l UNX
Site:	Paving Material/Inickness	
	Appearance	t Fair 1
		UNK
Drilling Program	Rig Type/Requirements (3)	: Inspection
i a byr a∎	Borings (No.)	0
		! ! !
	Vapor Wells/Lysimeters (No.)	0
	Sample Depths	 
	Completion Interva	; ;
		``. :
Laboratory Pr	ograa (4) No. of Tank Content Samples	1 0
		1
	No. of Tank Soil Samples	0
	faraseters	

## TANK NUMBER B-6-J

As initially approved, this facility was inspected. This facility was abandoned by filling with sand and concrete. There is no indication of any significant surface cracks in the concrete in the cap nor in the top of the sides of the structure. Because of the concrete cap, the interior of the facility could not be inspected. There is no evidence to believe that the facility lacked integrity. No further action is needed.

lank No.	· ,	8-6-7
lant No./Neare	st Blag.	Bo/bldg. 82 (Inside-5)
fank:		28ul n. Hollywood #ay
	Installation Date	Uhk
	Capacity, gai.	UN):
		Former clarifier, metal cleaning rinsewater
	Contents (past,CAS No.,date)	Final rinsewater
	(gresent,CAS No.)	Sand and concrete
	Construction Materials	Concrete
	Geometry	Rectanyular
	Depth to tap	Sealed
	Depth To Invert	UNK
	Diameter	2.8 it width
	Length (1)	1.6 ft
	Containment	i nwk
	Corrosive Protection (2)	UNK
	Status	. Abandonea
Tank Piping:	Number	Removed
	Туре	L UAK
	Construction Mat.	L UNK
Site:	Paving Material/Thickness	Concrete
	Appearance	Бооа
	Surface Contamination	: 1
Drilling	Rig Type/Requirements (3)	Inspection
Program	Barings (No.)	
		1
	Vapor Hells/Lysimeters (No.)	
	Sample Depths	1
	Completion Interval	; ; ;;
	•	\ :
Laboratory Pro	No. of Tank Content Samples	; ;
	No. of Tank Soil Samples	
		·

## FIELD PROGRAM

One boring, one suction lysimeter, and one vapor monitoring well were drilled/installed to monitor subsurface conditions at process Clarifier B-6-K

BORING B-6-K-Bl/SUCTION LYSIMETER B-6-K-SLl

Monitoring Installations - Boring B-6-K-Bl was drilled slightly west of the approved location due to a fire protection line 5 feet below ground surface. Two attempts were made before the third attempt reached the completion depth of 40 feet. The first attempt struck the 8-inch steel, fire protection line; the second attempt hit an unknown pipe 4 feet below ground surface. Upon completion, the boring was caved to 12 feet, and a lysimeter installed per verbal request by Mr. Al Novak of the RWQCB. Both the actual and the approved locations of the boring and suction lysimeter are indicated on the site map.

Sampling Intervals - Soil samples were to have been collected at depths of 3, 9, 14, 25, and 40 feet, according to the Work Plan. However, interference from a cobble at 14 feet necessitated shifting the sample intervals to 3, 9, 14, 24, and 39 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sand that predominate the lithology, it is unlikely that slight variance in the sampling intervals will significantly alter the chemical concentration profile of the soil.

Field Observations - The medium to very coarse grain size of the sand remained consistent throughout the first 24 feet of the boring. At 24 feet the sand became finer and the gravel and cobble fraction decreased. The soil was a greenish brown color throughout the first 12 feet. From 12 to 24 feet the color changed drastically from greenish brown to variegated light brown. The color changed again at 24 feet to a dark brown which corresponds with the general grain size decrease at the same depth.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The soil from the surface to 12 feet had a strong odor indicating possible contamination. The odor disappeared completely at 12 feet.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in two 55-gallon drums approved for storage of hazardous waste.

### VAPOR MONITORING WELL B-6-K-MVl

Monitoring Installations - Vapor Monitoring Well B-6-K-MVl was installed as indicated in the approved Work Plan. The location of the vapor monitoring well is indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 10 feet, as approved in the Work Plan.

Field Observations - The medium to coarse grain size and grey color of the sand remained consistent throughout the first 7 feet of the well. At 7 feet the sand became coarser and the gravel and cobble fraction increased. From 7 to 10 feet the color changed drastically from grey to variegated light brown which corresponds with the general grain size increase at the same depth.

The soil from the surface had a strong odor indicating possible contamination.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in two 55-gallon drums approved for storage of hazardous waste.

# LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - Based on field observations indicating the potential presence of contaminants in the soil samples, individual depth samples, rather than a composite sample, were analyzed in the laboratory. Also, volatile organics were analyzed in addition to the other tests approved in the Work Plan.

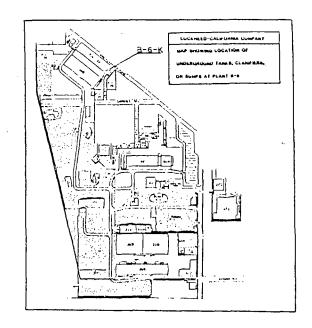
Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-K. The soil was found to be contaminated as pH levels were from 0.5 to 3 units below normal background.

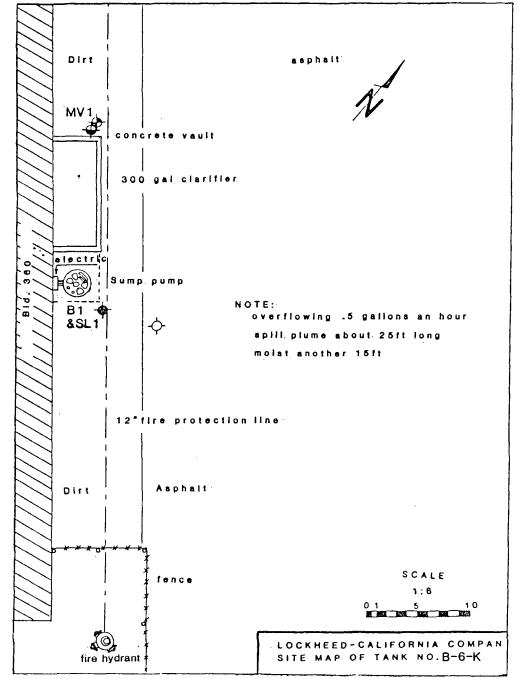
### CONCLUSIONS

Tank B-6-K, a clarifier, overflowed for several months onto an unimproved area due to a faulty float switch. Therefore, although it is likely that contamination is due to the accidental overflow, the spillage would mask any possible contamination if the clarifier has leaked.

### RECOMMENDATION

Proceed with quarterly monitoring of the wells.





lank No.	1	₿-a-¥
Plant No./Neare	est blag,	65/81dg. Jav (NE Side)
lank:	Location	2801 N. Hollywood may
	Installation Date	1957
	Capacity, gal.	
	Use/frocess	Secondary clarifier- discharge from B-a-!
	Contents (past,EAS Mg.,date)	Dilute acids, some ci:
	(present,CAS No.)	: Driute acids, some coi
	Construction Materials	Concrete Concrete
		l Kectangular (1-staje)
	nebty to tot	UAX
	Depth To Invert	4 ft
	ůl ameter	4 ft wiath
	Length ();	13.5 ft
	Containment	None
	Corrosive Frotection (2)	i uhć
	Status	In service
Tank Piping:	Number	}; ; UNA
	Тура	UHA.
	Construction Mat.	UNK
Site:	Paring Material/Inichness	
	Appearance	i   Poor-overflow rate   approx5 gal/or
	Surtace Contamination	Overflow plume extending *40 ft
Drilling Program	Rig Type/Requirements (3)	H.S. Auger
17 Ogr 28	barings (Na.)	: 1
	Sample Depths	1 B1/3,9,14,24,37 ft
	Vapor Wells/Lystmeters (No.)	2
	Sample Depths	MYL/6 FC SL1/REF, TO 61
		SLI/REF, TO 61
		SL1/11 it
Laboratory Pro	igram (4)	i.
	No. of Tank Content Samples	
		Cr, Mi, F, ph, SU4, Nu3 hydrocardens
	No of look Coul Creative	
	Parameters	i Vol.ürg. !

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 - - 2 - - 4 - - 6 -		-10 —	Gravel (planter area) Sand, medium grain, green r brown, moist w/cobbles to 5-in
	- 10 - - 12 -	0 ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° °	-20 —	Sand, medium to coarse grain, variegated, occasional cobbles & pebbles
4	- 14 - - 16 - - 18 -	а С 0	-50	
0.00 A	- 20 - - 22 - - 24 -	c <sub>Q</sub> O O	-55 —	-Sand, medium grain, brown.
	- 26 - - 28 -	<i>6</i> 0 0		Sand, medium grain, brown, occasional large pebbles
	- 30 - - 32 - - 34 -	0 0		
0	- 36 - - 38 - - 40 -	b C C	50	
		<b>文章和基本</b>		

# COMPLETION & BACKFILL

- -Suction lysimeter at 11 ft
- -Concrete, 0-2 ft
- -Bentonite, 2-4 ft
- -Clean sand, 4-8 ft
- -Clean sand & native mix,
- 8-12 ft
- -Clean sand, 12-15 ft
- -Caved, 15-40 ft

TANK NO. B-6-K

BORING NO. B-6-K-B1

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
COMPLETION & BACKETTI	- 0 1 - 1 - 2 - 3 - 4 10 11 12 13 14 15 16 17 18 19 20		25	-Gravel (planter area) -Sand & Gravel, medium to coarse grain, dark grey, moist, occasional cobbles to 3 in  -Strong odor  -Color change, lighter & slightly coarser
COMPLETION & BACKFILL				

-Blank 2 in I.D.

PVC pipe 0-4 f

PVC pipe, 0-4 ft
-Screened 2-in I.D.

PVC pipe, 4-9.9 ft -Rentonite, 0-4 ft

-Bentonite, 0-4 ft -Clean sand, 4-10 ft TANK NO. B-6-K MONITORING WELL NO. B-6-K-MV1

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PARAMETER	1		ISAMPLE I.O.							
	:  BACK  GROUND  SAMPLE	TTLC	B-o-K   B1   3-4 ft.	B-6-K B1 9-10 ft.	8-6-K 81 14-15 ft.	8-6-K 81 25 ft.	B-6-K B1 39-40 ft.	8-6-K SL1 8-9 ft.		
Volatile Organics (ug/kg)	1	N.A.	1 N.T.	N.T.	N.T.	N.T.	N.T.	N.7.		
Benzene	1 <0.2		1							
Carbon Disulfide	1 .		1							
1,1 Dichloroethene	; (û.1		1							
Hethylene Chloride	1 (0.5		}							
Perchloroethylene	1 <0.4		1							
1,1,1 Trichlorethane	1 <0.2		1							
Trichlaroethylene		£ 2,040	i							
Toluene	(0.4		1							
Petroleum Hydrocarbon (mg/kg)	i N.T.	N.A.	1 (2.0	(2.0	(2.0	(2.0	(2.0	⟨2.0		
Oil & Grease (mg/kg)	1 (1.0	N.A.	l N.T.	N.T.	N.T.	N.T.	N.T.	N.T.		
CAM Metals (mg/kg)	!		: N.T.	N.T.	N.T.	N.T.	N. T.	N.T.		
Antimony	1 (2.5	500	1							
Arsenic	1 12.7	500	1							
Barium	43.4	10,000	1							
Beryllium	1 (1.0	75	1							
Cadmium .	1 (0.5	100	1							
Chromium (Total)	1 6.3	2,500	1 8.Ú	3.5	4	8.1	4.5	3.6		
Cobalt	4.3		<b>!</b>							
Copper	8.6	250	1							
Lead	1 (2.5	1,000	1							
Nercury	1 (0.1	20	ì							
Holybdenum	6.9	3,500	1							
Nickel	4.1	2,000	}							
Selenium	1 (2.5	100	1							
Silver	1 (2.5	500	}							
Thallium	1 <2.5	700	1							
Vanadiu <b>a</b>	1 12.7	2,400								
Zinc	1 21.4	2,500								
ńlumimum (mq/kg)	18.9	N.A.	l N.T.	N.T.	32.7	N. T.	28.0	N.T.		
Sodium (mg/kg)	i N.T.		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.		
Others	:									
pΗ	8.19	N.A.	7.8	4.9	7.0	5.6	6.5	6.6		
Chloride (mg/kg)	! N.T.	N.A.		2.5	N.T.	2.3	1.6	N.T.		
Cyanide (ag/kg)	i N.T.		1 N.T.	(0.2	⟨0.2	(0.2	⟨0.2	N. T.		
	N.T.	18,000		(0.5	(0.5	(0.5	⟨0.5	⟨0.5		
Nitrate (mg/kg)	i N.T.	N.A.		2.0	N.T.	N.T.	2.0	N.T.		
Sulfate (mg/kg)	I N.T.	N.A.		6.7	N.T.	21.2	6.7	N.T.		

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

<sup>+</sup> ang∕kg

## FIELD PROGRAM

Two borings, B-6-L-Bl, one suction lysimeter, B-6-L-SLl, and one vapor monitoring well, B-6-L-MVl, were drilled/installed to monitor subsurface conditions at oil sump B-6-L.

#### BORING B-6-L-B1

Monitoring Installations - Boring B-6-L-Bl was drilled slightly north and west of the approved location due to underground obstructions. Both the actual and approved locations of the boring are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at depths of 5, 18, 23, 30 and 40 feet, as approved in the Work Plan.

<u>Field Observations</u> - The medium grain size and brown color of the sand remained consistent throughout the entire boring. The frequency of cobbles increased at 12, 26 and 31 feet, each layer diminishing after several feet.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination.

#### BORING B-6-L-B2

Monitoring Installations - Boring B-6-L-B2 was drilled to monitor the waste oil sump as indicated in the Work Plan. The location of the boring is shown on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at depths of 8, 15, 23, 30 and 40 feet, as approved in the Work Plan.

<u>Field Observations</u> - The medium coarse grain size and brown color of the sand remained consistent throughout the entire boring.

There were no indications of contamination.

## SUCTION LYSIMETER B-6-L-SL1

Monitoring Installations - Suction Lysimeter B-6-L-SLl was installed slightly north of the approved location due to underground obstructions. Both the actual and approved locations of the lysimeter are indicated on the site map.

<u>Sampling Intervals</u> - No sample was taken due to adequate sampling coverage by other installations at Sump B-6-L.

<u>Field Observations</u> - The fine to coarse grain size and brown color of the sand remained consistent throughout the entire suction lysimeter.

# TANK B-6-L (continued)

There were no indications of contamination.

#### VAPOR MONITORING WELL B-6-L-MV1

Monitoring Installations - Vapor Monitoring Well -B-6-L-MVl was installed as indicated in the approved Work Plan. The location of the vapor monitoring well is indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 13 feet, as approved in the Work Plan.

Field Observations - The medium to coarse grain size and brown color of the sand remained consistent throughout the entire 13 feet of Vapor Monitoring Well B-6-L-MVl.

There were no indications of contamination.

## LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The liquid sample of the contents of the tank was analyzed as approved in the Work Plan. The soil samples taken from Boring B-6-L-B2 were composited and analyzed as approved in the Work Plan.

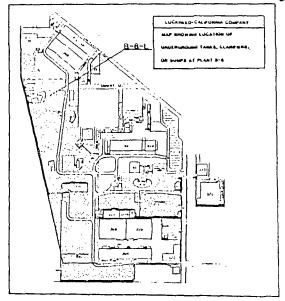
Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-L. The results indicate that 41 ug/kg of carbon tetrachloride, 10 mg/kg of 2-hexanone, and 8 mg/kg of petroleum hydrocarbons were detected in the soil sample, suggesting that the soils are contaminated.

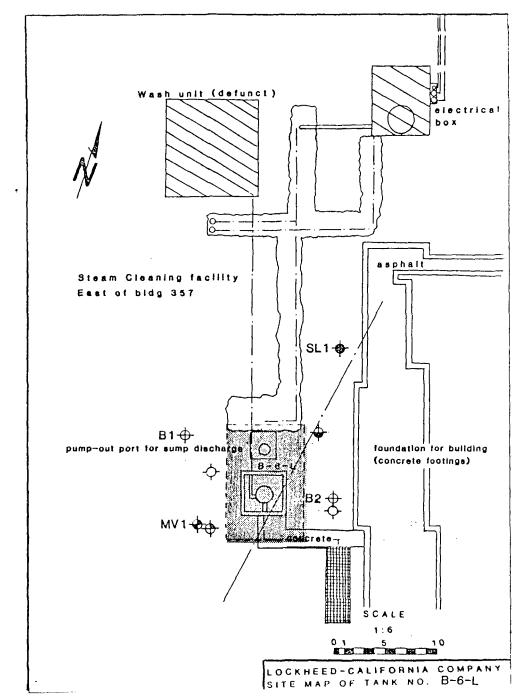
## CONCLUSIONS

There is insufficient evidence to conclude whether or not the tank is leaking.

## RECOMMENDATION

Since the tank is slated for permanent abandonment, no other analysis or action is recommended.





lank No.		b-c-L
Plant No./Neare		B6/Bldg. 357 (*70 ét £)
lank:	Location	2801 N. Hollywood asy
	Installation Date	UNK
	Capacity, gal.	12,000
	Use/frocess	Abundoned steam cleaning aperation-discharge sump
		: :
	(present,CAS No.)	Unly water
	Construction Materials	Concrete
	beometry .	* Rectangular
	Vepth la lap	4.8 ft
	beptn To Invert	12.5 ft
	Drameter	i 5.7 ft weath
	Length (1)	i 6.5 tt
	Egntainment	! None
	Corrosive Protection (2)	i Uhk
	Statūs	: Abandoned
Tank Piping:	Number	CNO.
	lype	 
	Construction mat.	i Uhr.
Site:	Paving Material/Thickness	Aspnalt !
	Appearance	Much disturged asphait
		UNIX
brilling	Rig Type/Requirements (3)	H.S. Auger
Frogra∎	Borings (No.)	{- <b></b>
	Sample Wepths	1 B1/5,16,23,30,40 ft 1 B2/8,15,23,30,40 ft
	Vapor Wells/Lysimaters (No.)	! ! ! 9
		:
		l SL1/No sample I
·	Completion Interval	; ; #V1/3-13 fc ; SL1/13 ft ;
Laporatory Pro	No. of Tank Content Samples	
	Parameters	; ph,Sú4,Cr,Hez
	No. of Fank Soil Samples	
	Parameters	i Hydrocarbons,Vol.brg.
		i i

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
0.00 D 0 0.00 0.00 0.00 0.00 0.00 0.00 0	- 0 - - 2 - - 4 - - 6 -	000 000 000 000	- <b>4</b> 0 —	-Asphalt -Sand,fine to coarse grain,brown,occasional pebbles
	- 10 - - 12 - - 14 - - 16 - - 18 - - 20 -	80 00 00 00	-50	
\$ 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	- 22 - - 24 - - 26 - - 28 - - 30 - - 32 - - 34 - - 36 - - 38 - - 40 -		49 50	-Cobbles -Cobbles Sand becoming coarser w/depth
COMPLETION & BACKFILL  -Asphalt, 0-0.5 ft -Concrete, 0.5-3 ft -Bentonite, 3-5 ft -Native material, 5-40 ft		IK NO.		6-L-B1

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION	
	100	- 0 -	こくごという		-Asphalt -Sand,fine to coarse	
	00 20	- 2 -	0000		grain, brown, occasional pebbles	
	<b>**</b>	- 4 -	2000		pessies	
	a	- 6 -	© 0			
	( <b>0</b>	- 8 -	90	-37		
	<del>                                    </del>	- 10 -				
		- 12 -	00			
		- 14 -	00	-50		
	( B	- 16 -	0			
	<i>o</i>	- 18 -	8000		-Cobble layer	
		- 20 -	COO.			
	\alpha \( \alpha \)	- 22 - - 24 -		66	·	
	P O OR	- 26 -				
	o l	- 28 -	000		-Cobble layer	
	٥	- 30 -	00	-62		
	0	- 32 -	0 0			
		- 34 -	P			
	6	- 36 <b>-</b>	မ်			
		- 38 -	20			
		- 40 -	0.5	-69		
	COMPLETION & BACKFILL					
ļ	-Asphalt, 0-0.5 ft -Concrete, 0.5-3 ft					
	-Bentonite, 3-5 ft -Native material, 5-40 ft	TANK NO B-6-1				
	•	TANK NO. B-6-L				
		BORING NO.B-6-L-B2				

BACKFILL & COMPLETION

-Blank 2-in I.D.
PVC pipe, 0.3-3 ft
-Screened 2-in I.D.
PVC pipe, 3-13 ft
-Concrete, 0-2.5 ft
-Bentonite, 2.5-3.5 ft
-Clean sand, 3.5-13.5 ft

TANK NO. <u>B-6-L</u> MONITORING WELL NO. <u>B-6-L-MV</u>1

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_	CONSTRUCTION DETAILS	DEPTH	LOG	CNTS	LITHOLOGIC DESCRIPTION
		- 0 - - 1 - - 2 - - 3 - - 4 -	、 、 、 。		-Asphalt -Sand,fine to coarse grain,brown,occasional pebbles
		- 5 - - 6 -	0°,		
		- 8 - - 9 - - 10 -	8,		
		- 11 - - 12 - - 13 -	00.00000000000000000000000000000000000	·	·
		- 14 - - 15 -			
		- 16 - - 17 - - 18 -			
	COMPLETION & BACKFILL	- 19 - - 20 -			

<sup>-</sup>Suction lysimeter at 13 ft

10-15 ft

TANK NO. B-6-L

SUCTION LYSIMETER NO. B-6-L-SL1

<sup>-</sup>Concrete, 0-2.5 ft

<sup>-</sup>Bentonite, 2.5-5 ft -Clean sand, 5-10 ft

<sup>-</sup>Clean sand & native mix

PARAMETER	1	}	SAMPLE	1.0.
	i IBACK	TTLC :	6-6-L	 B-6-L
	LGROUND		LIQUID	B1 & B2
	ISAMPLE	,		COMPOSITE
Volatile Organics (ug/kg)		N.A.	N.T.	
Benzene	1 <0.2	i		N.D.
Carbon Disulfide	1 7 7	1		N.D.
Carbon Tetrachloride	1 (0.1	;		41.Ù
Methylene Chloride	1 (0.5	į	i	N.D.
Perchloroethylene	1 (0.4	i		N.D.
1,1,1 Trichlorethane	1 <0.2	;		N.D.
Trichloroethylene	1 (0.3	± 2,040 H		N.D.
2-Hexanone	1 (0.4	;		#10.0
Petroleum Hydrocarbon (mg/kg)	l N.T.			7.9
Oil & Grease (mg/kg)	1 (1.0	N.A. :	N.T.	N.T.
CAM Metals (mg/kg)	1	;		N.T.
•	1 <2.5		N.T.	
Arsenic	12.7		N.T.	
Barium	1 43.4	10,000	N.T.	
Beryllium	1 <1.0	75	N.T.	
Cadmium	(0.5	100		
	i 6.3	2,500		
Cobalt	1 4.3	8,000		
Copper	8.6		N.T.	
Lead	1 (2.5	1,000		
,	1 (0.1		N.T.	
Mol ybdenu <b>n</b>	1 6.9	3,500		
Nickel	4.1	2,000		
Selenium	1 (2.5		N.T.	
Silver	1 (2.5	500	N.T.	
Thallium	1 (2.5	700 l	N.T.	
Vanadium	1 12.7	,		
Zinc	1 21.4	2,500	.Т.	
Aluminum (mg/kg)	18.9	N.A.	N.T.	N.T.
Sodium (m.g/kg)	! N.T.	N.A.	N.T.	N.T.
Others	1	;		N.T.
ρH	8.19		8.13	
Chloride (mg/kg)	N.T.	N.A.		
Cyanide (mg/kg)	I N.T.	N.A.		
Flouride (mg/kg)	: N.T.	18,000		
Nitrate (mg/kg)	i N.T.	N.A. (		
Sulfate (mg/kg)	i N.T.	N.A.	N.D.	

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.I. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

<sup>±</sup> ag/kg

#### TANK NUMBER B-6-M

## FIELD PROGRAM

One boring, one suction lysimeter, and one vapor monitoring well were drilled/ installed to monitor subsurface conditions at overspill collection T and T are T and T and T are T are T and T are T are T and T are T and T are T are T are T and T are T are T are T and T are T are T are T and T are T are T and T are T are T are T and T are T are T are T and T are T are T are T are T and T are T are T are T are T are T and T are T are T are T and T are T are T and T are T are T are T and T are T are T are T are T are T and T are T are T and T are T and T are T and T are T

#### BORING B-6-M-Bl

Monitoring Installations - Boring B-6-M-Bl was drilled slightly north and west of the approved location due to numerous underground obstructions. Three attempts were made to drill the boring to the planned depth before the fourth attempt was successful. Both the actual and the approved locations of the boring are indicated on the site map.

Sampling Intervals - Soil samples from Boring B-6-M-Bl were to have been collected at depths of 4, 10, 15, 25, and 40 feet, according to the approved Work Plan. However, ease of sampling necessitated shifting the sample intervals to 6, 9, 14, 24, and 40 feet. Based on the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampling intervals will significantly alter the chemical concentration profile of the soil.

Field Observations - The medium to fine grain size and brown color of the sand remained consistent throughout the first 24 feet of the boring. At 24 feet the sand became coarser, and the gravel and cobble fraction increased. At 24 feet the color changed from brown to variegated light brown which corresponds with the general grain size increase at the same depth.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination.

#### SUCTION LYSIMETER B-6-M-SL1

Monitoring Installations - Suction Lysimeter B-6-M-SLl, installed to monitor the north end of the overspill collection tank, was placed in lieu of the originally approved vapor monitoring well per verbal instructions from Carol Kawamoto of the RWQCB. The lysimeter was placed slightly west of the approved location because it was possible to drill closer to the tank than originally anticipated. Both the actual suction lysimeter and the approved vapor monitoring well locations are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 12 feet, as approved in the field by Carol Kawamoto of the RWQCB.

## TANK B-6-M (continued)

Field Observations - The medium to very coarse grain size and light brown color of the sand remained consistent throughout the first 10 feet of the lysimeter. At 10 feet the sand became finer and the gravel and cobble fraction decreased. At 10 feet the color changed slightly from light brown to dark brown which corresponds with the general grain size decrease at the same depth.

There were no indications of contamination.

## VAPOR MONITORING WELL B-6-M-MVl

Monitoring Installations - Vapor Monitoring Well B-6-M-MVl was installed slightly north and west of the approved location due to rig access problems. Both the actual and the approved locations of the vapor monitoring well are indicated on the site map.

Sampling Intervals - Soil samples were to have been collected at a depth of 6 feet, according to the approved Work Plan. However, the monitoring well was placed slightly deeper than the approved completion depth to insure that a leak in the very bottom of the tank would be detected. Monitoring below the tank is necessary because the sand that predominates the lithology is so highly conductive in the vertical sense that a contaminant liquid plume would show virtually no lateral expression.

<u>Field Observations</u> - The medium grain size and brown color of the sand remained consistent throughout the first 8 feet of the well. At 8 feet the sand became coarser and the gravel and cobble fraction increased. At 8 feet the color changed from brown to variegated light brown which corresponds with the general grain size increase decrease at the same depth.

There were no indications of contamination.

## LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - The sample taken from Suction Lysimeter B-6-M-SLl and the liquid sample of the contents of the tank were analyzed for pH, CAM metals, and organic solvents.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-M. The levels of contaminants found in the samples were all below or comparable to the average background samples levels. All volatile organic analyses results were below detection limit.

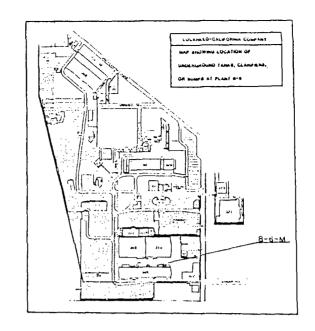
# TANK B-6-M (continued)

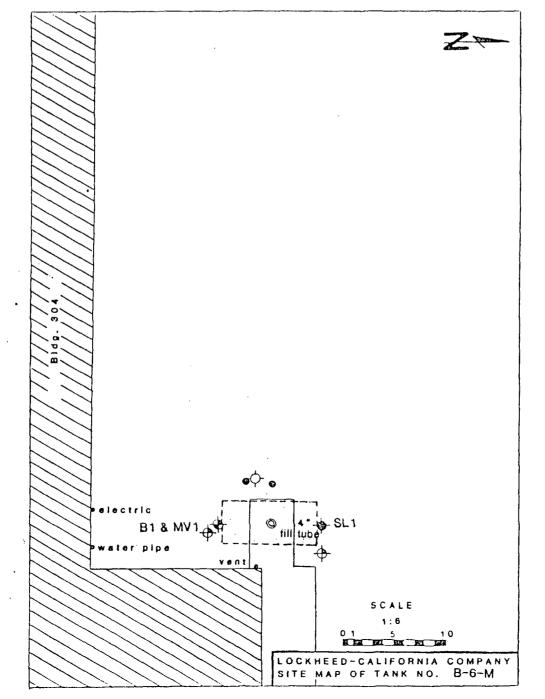
# CONCLUSIONS

Both field and laboratory analysis results show that the suspected contaminants were below detection limits or were comparable to the average background levels. It is concluded that the tank is not leaking.

## RECOMMENDATION

Proceed with quarterly monitoring of the wells.





lant No./Near	est 8lag. :	66/81dg, 304 (N Side)	
Tanks		2801 N. Hollywood Way	
	Installation Date :	UNA	
	Capacity, gal.	UH).	
	Use/Process	UNK	
	Contents (past,CAS No.,date)	UNK	
	(present,CAS No./	maste mater from solvent storage	
	Construction Materials	UNK	
	6eceetry	Cylindrical ·	
	Gepth To Top	2.3 ft	
	Gepth To Invert	5.4 ft	
	Diameter	3.1 ft	
	Length (1)	UNK	
	Containment	None	
	Corrosive Frotection (2)	UNK	
	Status		
Lank Piping: Number		ühk	
Туре		UNA.	
	176-		
	Construction Mat.	UNF	
Site:	Paving Material/Thicaness	Asphait/Concrete	
	Appearance	Asphalt with large concrete patches	
	Surface Contamination	UNK	
Orilling	Rig Type/Requirements (3) Borings (No.)	H.S. Auger	
rrugraa	Borings (No.)	1	
	Sample Depths	:   B1/0,9,14,24,39 ft 	
	Vapor Wells/Lysimeters (No.)		
	Sample Depths	: MV1/KEF. 10 B1   SL1/J±75 Ht 172	
		: : MV1/3-13.5 +: : SL1/10.5 +t	
Laboratory Program (4) No. of Tank Content Samples		1 : 2	
	Parameters		
	No. of lank Soil Samples	1 1(Coap. r	
	Parameters	Vol.Org.,Cam	
		t 1	

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW	LITHOLOGIC DESCRIPTION
//	D	- 0 -			-Asphalt
			スペンジイング		Sand, medium grain,
		2 2	0		gravely,moist,occasional cobbles
		- 4 -	5		
		- 6	e	-50	
		- 8 -	O	50	
		- 10 -	l U		
		- 12 -			
		- 14 -		-50	
		- 16 -			-Sand, fine grain, silty, pebbly
	0.	- 18 -	ě,		
	) A	- 20 -			·
		- 22 -	0		
	0	- 24 -	D	-50 <i></i> -	
	)		, a	-30	Sand, coarse grain to
	0.	- 26 -	D.		3 in. cobbles, variegated
		- 28 -	•		
		- 30 -	0 00		
	(: ♠ <b>(:</b> ♠ (: ♠	- 32 -	€		
Ì		- 34 -			
	<u>a</u>	- 36 -			
		- 38 -	0		
		- 40 -		-50	
	COMPLETION & BACKFILL				
- 1	-Blank 2-in I.D. PVC pipe, 0-3 ft				
	-Screened 2-in I.D. PVC pipe, 3-13.5				
	-Concrete, 0-2 ft -Bentonite, 2-3 ft	TANK NO. B-6-M			
	-Clean sand, 3-14 ft	DODING NO D-6-M-P1			
	Native material, caved 14-40 ft	BORING NO. B-6-M-B1			

 CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION	
	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 -		50 50	-Asphalt -Sand, medium to coarse grain, gravely, brown, moist  -Abundant cobbles  -Sand, fine grain, brown, moist	
COMPLETION & BACKFILL -Suction lysimeter at		·····			
at 10.5 ft  -Concrete, 0-4 ft  -Bentonite, 4-5 ft  -Clean sand, 5-8 ft  -Clean sand & native mix  8-12.5 ft	TANK NO. <u>B-6-M</u> SUCTION LYSIMETER NO. <u>B-6-M-SL1</u>				

GREGG & ASSOCIATES, INC.

PARAMETER	1		ISAMPLE I	.0.
	: !BACK !GROUND !SAMPLE	TTLC	B-6-M LIQUID	
Grganic Solvents (mg/kg)	}	N.A.	\ \	N.D.
Isobutyl Acetate	1 N.T.		1 N.D.	
Acetone	N.T.		1 TRACE	
Methanol	i N.T.		TRACE	
Isobutyl Alcahol	1 N.T.		! N.D.	
Isopropanol	t N.T.		1 N.D.	
Methyl Ethyl Ketone	1		1 N.D.	
Methyl Isobutyl Ketone	i i		7.0	
Petroleum Hydrocarbon (mg/kg)	l N.T.	N.A.	i N.T.	N.T.
Oil & Grease (æg/kg)	1 <1.0	N.A.	1 N.T.	N.T.
CAM Metals (mg/kg)	1		1	
Antimony	1 (2.5	500	1 N.D.	(2.5
Arsenic	1 12.7	500	I N.D.	3.3
Barium	1 43.4	10,000	i N.D.	43.7
Beryllium	1 (1.0	75	1 N.D.	<1.0
Cadmium	1 <0.5	100	1 N.D.	⟨0.5
Chromium (Total)	6.3	2,500	i N.D.	3.9
Cobalt	1 4.3	8,000	0.01	2.6
Copper	1 8.6	250	: N.D	7.5
Lead	1 (2.5	1,000	l N.D.	⟨2.5
Mercury .	1 <0.1	20		(Ú.06
Molybdenum -	6.9	3,500		<1.0
Nickel	4.1	2,000	0.01	3.5
Selenium	1 (2.5	100	0.0013	(2.5
Silver	1 (2.5	500	l N.D.	₹2.5
Thallium	1 (2.5	700		(2.5
Vanadium	1 12.7	2,400		11.9
Zinc	1 21.4	2,500	1.54	20.7
Alumiaum (ag/kg)	1 18.9	N.A.	1 N.T.	N.T.
Sodium (mg/kg)	: N.T.	N.A.	! N.T.	N.T.
Others	1		1	н.т.
рН	8.19	N.A.	7.0	
Chloride (mg/kg)	H N.T.	N.A.	I N.T.	
Cyanide (mg/kg)	! N.T.	N.A.	N.T.	
Flouride (mg/kg)	N.T.	18,000	i N.T.	
Nitrate (mg/kg)	: N.T.	N.A.	≀ N.T.	
Sulfate (mg/kg)	1 N.T.	N.A.	N.T.	

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

<sup>.</sup> TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

a⊊g/kg

#### TANK NUMBER B-6-N

## FIELD PROGRAM

One boring, B-6-B-B1, and two suction lysimeters, B-6-N-SL1 and B-6-N-SL2, were drilled/installed to monitor subsurface conditions at overspill collection Tank B-6-N.

## BORING B-6-N-B1/SUCTION LYSIMETER B-6-N-SL2

Monitoring Installations - Boring B-6-N-Bl was installed slightly west of the approved location. This was because it was possible to drill closer to the tank than originally anticipated. Upon completion, the boring was caved to 10 feet and a suction lysimeter was installed. This lysimeter was installed, per RWQCB directives, in lieu of the vapor monitoring well originally proposed. Both the actual and approved locations of the boring/suction lysimeter are indicated on the site map.

Sampling Intervals - Soil samples were taken at depths of 9, 14, 24, and 39 feet, as approved in the Work Plan.

Field Observations - The medium grain size and brown color of the sand remained consistent throughout the first 3 feet of the boring. At 3 feet the sand became coarser, and the gravel and cobble fraction increased. At 15 feet the soil became finer and slightly more moist. From 3 to 15 feet the color changed from brown to variegated light brown, and from 15 feet to depth the soil was dark brown.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The soil throughout the boring had a slight odor indicating possible contamination.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in two, 55-gallon drums approved for storage of hazardous waste.

#### SUCTION LYSIMETER B-6-N-SLl

Monitoring Installations - Suction Lysimeter B-6-N-SLl was installed slightly east of the approved location due to rig access problems. The lysimeter was installed, per RWQCB directives, in lieu of the vapor monitoring well originally proposed. Both the actual and approved locations of the installation are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 12 feet, as approved in the field by Carol Kawamoto of the RWQCB.

<u>Field Observations</u> - The medium grain size and brown color of the sand remained consistent throughout the first 7 feet of the lysimeter. At 7 feet the sand became coarser, and the gravel and

# TANK B-6-N (continued)

cobble fraction increased. At 7 feet the color changed slightly from brown to variegated light brown, which corresponds with the general grain size increase at the same depth.

There were no indications of contamination.

### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of the tank was analyzed for volatile organics, CAM metals, and pH. Based on field observations indicating the potential presence of volatile organics in the soil samples, the 9-10 foot sample, a 24-39 foot composite and a sample from Suction Lysimeter B-6-N-SLl were analyzed in the laboratory. The samples were analyzed for volatile organics only rather than the volatile organics and CAM metals specified in the Work Plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-N. A total of five volatile organics were detected in the soil samples, suggesting that the soils had been contaminated. The concentration levels range from a low of 10.5 ug/kg of benzene to a high of 20 mg/kg of butyl acetate.

### CONCLUSIONS

There is no record/indication that the tank has been used for storing any of the organics found in the soil samples. In addition, if the tank were leaking, the levels of contaminants in the soil would be expected to be much higher. Thus, it is likely that the origin of contamination is from other sources such as surface spills rather than the leakage of the tank. It is known that benzene was used as a fuel booster in the past and carbon disulfide is an active rodenticide ingredient used in the area.

## RECOMMENDATION

Additional subsurface sampling and analysis should be conducted to further determine whether the origin of the contamination is from the leakage of the tank and to quantify the extent of contamination.

# TANK NUMBER B-6-N supplement

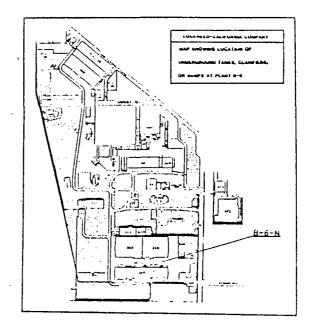
#### ADDITIONAL INVESTIGATIONS

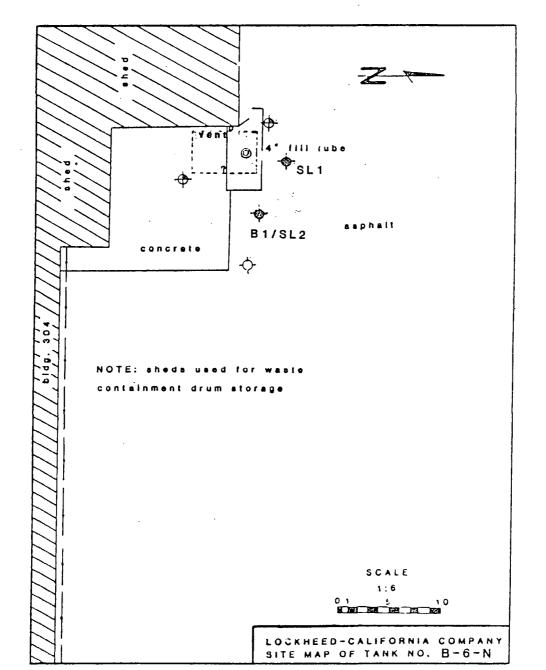
The analysis of soil samples collected near Tank B-6-N during the initial drilling indicated low to moderate levels of benzene and ethyl acetate. To determine if the contamination in the soil is the result of tank leakage, Tank B-6-N was hydrostatically tested by Horner Creative Metals, Inc. of Kawkawlin, Michigan on May 31, 1985. The test is a hydrostatic evaluation and can detect leaks in the tanks and related piping systems with a level of detection of ±0.05 gallons per hour. This is the required level of detection according to National Fire Prevention Authority (N.F.P.A.), #329. The results of the test (Appendix C) indicated that the tank is "certified tight" as is, not leaking within the accepted level of detection.

It is therefore concluded that the contamination present in the nearby soil did not originate from leakage of Tank B-6-N. It is possible that the contamination may be the result of leakage from drums commonly stored in the area; of overfilling the tank, which receives run off from a nearby drum storage area; or fugitive surface spillage of other materials.

### FURTHER RECOMMENDATIONS

It is recommended that no drums be stored outside of the nearby bermed area specifically designed for the storage of drums. Also, the tank should be checked and pumped, if necessary, on a regular basis. This should prevent overfilling of the tank and eliminate future liquid discharge into the soil.





PERTINENT CONSTRUCTION AND PROGRAM DATA

ant No./Near	est flica.	Ba/Bldg. 304 (n Side:		
lank:		2801 N. Hallywood way		
14081	Installation Date	UNA.		
	Capacity, gal.			
		EN.		
	Use/Process	UNI.		
	Contents (past,CHS No.,date):	UNK		
	(present, LAS No.)	haste water from		
	וואר באני,נאבי ועו	storage solvent		
	-			
	Construction Materials	UNK		
	Secwetry	Cylindrical		
		: UNK, Prob. same as tro-n		
		: :UNK, Prob. same as 6-o-n		
	Diameter	iUNK, from. same as becom		
	Length (1)	UNI.		
	Containaent	. Hane		
	Carresive Protection (2)	i		
	Status	i une		
Tank Piping	: Number	UNA.		
	Туре	i Ühi.		
		: !		
	Construction Nat.	UNK		
Site:	Paving Material/Thickness	Aspnalt/Concrete		
		: Aspnalt with large : concrete patches		
	Surface Contamination	i ; UNK i		
Drilling	Rig Type/Requirements (3)	H.S. Auger		
Program	Borings (No.)	1		
	Sample Depths	i		
		} {		
	Vaçor Weils/Lysimeters (No.)			
	Sample Depths	: SL1/12.5 ft : SL2/REF. TO 61 :		
	Completion Interval	f		
aboratory fr	No. of Tank Content Samples			
	Parameters	HA3, kq		
	No. of Tank Soil Samples	: } !(Eump.)		

lank No.	:	6-o-h
iant No./Near	est blag.	Bereige, 304 whichises
Tank:	Location	lovi N. mallymood mar
	Installation Date	uhr
	Capacity, gai.	Uhr.
	Úse/frocess	uhř.
	;	
	Contents (past,CAS No.,Date)	Ule.
	•	
	***************************************	· · ·
	(present <sub>i</sub> CAS Ao.)	: maste mater from . atorage so: ent
		:
	Construction daterials	inhe.
	Depaetry	Lyrindfičai
		iunk, rrub. Same au bru-fl 
	Depth io invert	CUNK, From. same as desem :
-	blameter	lunk, from. sawe as boort 
	Length vII	: uhv
	Containment	None
	Corrosive Frotection (2)	i UNI:
	btatus	UMR.
Tank Piping	: humber	i UNA
	:уре	i unii
		i
	Construction Mat.	i uni;
Site:	Paving Material/Inickness	Asphait/Concrete
	Hobert ance	I msphait mith large
	*******************************	Concrete patches
	Survace Contamination	. 54F.
Prilling	Rig Type/Requirements (3)	i n.a. Aquer.
Program	Rig Type/Reduirements (3)	
	Borings (Ma.)	i .
	Sample Deotins	1
		:
	Vapor Weils/Lystaeters (No.)	; 2
	Sample Depths	1 St 171 5.5 et
		5 563.82F. 70 51
	Completion Interval	Sci/Ic it
		Selvio it
2002-4007-55	our_a i_i	 
11 Y 1036 1006.	No. of lank Content Samples	
	Parapeters	)
		·
	Nu. or lank Soli Samples	

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW	LITHOLOGIC DESCRIPTION
CONSTRUCTION DETAILS	DEFIN	LOG	CNTS	LITHOLOGIC DESCRIPTION
	- 0 - - 2 -	スペンスペン		-Asphalt -Sand,medium to coarse grain,brown,moist
	- 4 -	ov a		-Color change lighter & coarser
	- 6 -	ð		
-	- 8 -	0		
	- 10 -	0	15	-Sand, medium grained to cobbly, variegated
	- 12 -	o 0		
	- 14 -	000	32	finer grain,darker, occasional small gravel
	- 16 -			
	- 18 -	000		
	- 20 -	D		
	- 22 -	ø		·
	- 24 -	0	50	
	- 26 -	000		
	- 28 -	o		
	- 30 -	/3		
	- 32 -	0000	Ì	-Cobbles,thin layer
	- 34 -	· ·	İ	
	- 36 -	, 0		,
	- 38 -	o <sub>0</sub>		
	- 40 -		56	
COMPLETION & BACKFILL				
-Suction lysimeter at 10 ft				
-Concrete, 0-2 ft -Bentonite, 2-5 ft -Clean sand, 5-7 ft	TAN	K NO.	_B−6	<u>-N</u>
-Clean sand & native mix 7-11 ft -Clean sand, 11-40 ft	BOF	IING N	O. <u>B-</u> 6	6-N-B1

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 -		36	-Asphalt -Sand, medium grain w/gravel, brown, occasional cobbles to 3-in  -Sand, fine to medium grain, variegated, occasional cobbles
COMPLETION & BACKFILL  -Suction lysimeter at 10 ft -Concrete, 0-3 ft -Bentonite, 3-4 ft -Clean sand, 4-6 ft -Clean sand & native mix 6-12.5 ft	TANK NO. <u>B-6-N</u> SUCTION LYSIMETER NO. <u>B-6-N-SL1</u>			

PARAMETER	;	SANPLE I.D.					
	:  BACK  GROUND  SAMPLE	TTLC	LIQUID	Вl	B-6-N B1(COMP.) 24-39 ft.	SL2	
Organic Solvents (mg/kg)		N.A.	1				
	1 (0.2		l N.T.	0.105	N.D.	N.D.	
Carbon Disulfide	1		: N.T.		0.0254	N.D.	
	(0.4		1 N.T.		N.T.		
	i N.T.		1 11.0		N.T.	N.D.	
•	1 N.T.		1 N.T.		N.T.	20.0	
•	l N.T.		98.0	N.T.	N.T.	N.D.	
	N.T.		1 N.T.		N.T.	5.6	
	N.T.		1 20.0	N.T.	N.T.	N.D.	
	1 N.T.		1 170.0	N.T.	N.T.	N.D.	
	1 N.T.		1 130.0	и. г. N. Т.	N.T.	N.D.	
Methyl Ethyl Ketone			1 190.0		N.D.	N.D.	
·							
Hethyl Isobutyl Ketone			· 470.0	N.U.		N.D.	
Petroleum Hydrocarbon (mg/kg)							
Oil & Grease (#g/kg)	1 (1.0	N.A.	! N.T.	N.T.	N.T.	N.T.	
CAN Metals (mg/kg)	1		!	N.T.	N.T.		
Antimony	1 (2.5	500	1 N.D.				
Arsenic	1 12.7	500	1 N.D.				
Barius	1 43.4	10,000	1 N.D.				
Beryllium	1 (1.0	75	N.D.				
Cadmium	1 <0.5	100	1 0.03				
Chromium (Total)	1 6.3	2,500	1 0.08				
Cobalt	1 4.3	8,000	0.04				
Copper	8.6	250	0.17				
Lead	1 (2.5	1,000	1 0.04				
Mercury	1 (0.1		0.0006				
Molybdenum	1 6.9	3,500	1 N.D.				
Nickel	4.1	2,000	0.02				
Selenium	1 <2.5	100	1 0.0022				
Silver	1 (2.5	500	l N.O.				
Thallium	1 <2.5	700	l W.D.				
- Vanadium	1 12.7	2,400	1 N.D.				
Zinc	1 21.4		1 6.21				
Aluminum (mg/kg)	: 18.9	N.A.	: N.D.	N.T.	N.T.	н.т.	
Sodium (mg/kg)	N.T.	N.A.	N.D.	N.T.	N.I.	N.T.	
Others	!		1	N.T.	N. T.	N.T.	
ρH	: 8.19	N.A.	1 6.80	178 1 6	*** * *	H. I.	
Chloride (mg/kg)	: N.T.	N.A.	I N.T.				
Cyanide (mg/kg)	1 N.T.	N.A.	! N.T.				
Flouride (mg/kg)	1 N.T.	18,000	1 N.T.				
(IDEFICE (INU/KU)	( 13.1.	10,000	1 (4.).				
Nitrate (mg/kg)	) N.T.	N.A.	i N.T.				

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.I. - NOT TESTED

## FIELD PROGRAM

Two borings, B-6-O-Bl and B-6-O-B2, and two vapor monitoring wells, B-6-O-MVl and B-6-O-MV2, were drilled/installed to monitor subsurface conditions Tank B-6-O.

#### BORING B-6-0-Bl

Monitoring Installations - Boring B-6-O-Bl was drilled slightly north and west of the approved location due to an underground fire protection line. Both the actual and approved locations of the boring are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were to have been collected at depths of 6, 17, 22, 30 and 40 feet, according to the approved Work Plan. However, the contamination present necessitated shifting the sample intervals to 5, 10, 22, 27, 32 and 40 feet.

Field Observations - The medium-to-coarse grain size and brown color of the sand remained consistent throughout the entire boring. There is a layer of asphalt 2 feet below existing grade. The two layers are separated by a sand layer approximately 1.5 feet thick.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The soil at 13 feet had a strong solvent odor indicating possible contamination. The vapors from the soil samples were measured in the headspace of plastic bags with an HNU PID meter. At 13 feet, the HNU readings averaged 300 ppm; at 16 feet HNU readings decreased to an average of 200 ppm; at 30 feet, average readings were again 300 ppm. HNU readings were duplicated with only a small variance of values.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in three 55-gallon drums approved for storage of hazardous waste.

#### BORING B-6-0-B2

Monitoring Installations - Boring B-6-O-B2 was drilled as indicated on the site map. This boring was not included on the original Work Plan and was drilled at the request of Mr. Al Novak, RWQCB.

Sampling Intervals - Soil samples were taken at depths of 5, 10, 22, 32 and 40 feet as approved in the field by Mr. Novak.

<u>Field Observations</u> - The medium-to-coarse grain size and brown color of the sand remained consistent throughout the entire boring. There is a layer of asphalt 2 feet below existing grade.

The two layers are separated by a sand layer approximately 1.5 feet thick. The frequency of cobbles increased at 9 feet and continued to 10 feet.

The soil at 5 feet had a slight odor indicating possible contamination. The vapors from the soil samples were measured in the headspace of plastic bags with an HNU PID meter. At 10 feet, the HNU readings averaged 300 ppm; after 10 feet, HNU readings became sporadic and disappeared completely at 20 feet. HNU readings were duplicated with only a small variance of values.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in a 55-gallon drum approved for storage of hazardous waste.

#### VAPOR MONITORING WELL B-6-O-MVl

Monitoring Installations - Vapor Monitoring Well B-6-O-MVl was installed slightly north of the approved location due to reassessment of the tank location. Both the actual and approved locations of the well are indicated on the site map.

Sampling Intervals - Soil samples were to have been collected at a depth of 12 feet, according to the Work Plan. However, the monitoring well was placed slightly deeper than the approved completion depth to insure that a leak in the very bottom of the tank would be detected. Monitoring below the tank is necessary because the sand that predominates the lithology is so highly conductive in the vertical sense that a contaminant liquid plume will show virtually no lateral expression. The sample was taken directly from cuttings on the auger flights at the surface because a large boulder at 13 feet prevented ring sampling.

The auger cut samples are subject to volatilization. Further, they may represent soil from just below the surface to 13 feet due to soil caving onto the auger flights. As the tank contains diesel and gasoline, the possible volatilization of the lighter organic fractions from the auger cut samples should not significantly alter the results.

<u>Field Observations</u> - The medium-to-coarse grain size and brown color of the sand remained consistent throughout the entire well. The frequency of cobbles increased at 13 feet.

There were no indications of contamination.

#### VAPOR MONITORING WELL B-6-0-MV2

Monitoring Installations - Vapor Monitoring Well B-6-0-MV2 was installed slightly west of the approved location due to

# TANK B-6-0 (continued)

reassessment of the tank location and rig access problems. Both the actual and approved locations of the well are indicated on the site map.

Sampling Intervals - Soil samples were to have been collected at a depth of 12 feet, according to the Work Plan. However, the depth of the sample was increased to 13 feet due to uncertainty regarding exact tank dimensions. Because of the absence of any layers of low permeability in the upper portions of the soil horizons, and the loose, highly conductive nature of the sands that predominate the lithology, it is unlikely that a slight variance in the sampled interval will significantly alter the chemical concentration profile of the soil.

<u>Field Observations</u> - The medium-coarse grain size and brown color of the sand remained consistent throughout the entire well.

There were no indications of contamination.

#### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of the tank was collected for laboratory analysis. Based on field observations indicating the potential presence of volatile organics in the soil samples, individual depth samples, rather than a composite sample, were analyzed in the laboratory. Hydrocarbons were analyzed in addition to the tests approved in the Work Plan.

<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-0.

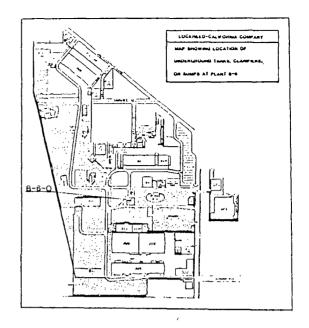
The liquid sample was characterized as 100 percent hydrocarbons. Low levels of petroleum hydrocarbons (18 to 114 mg/kg) and a trace of chloromethane (3.8 ug/mg) were detected in the soil samples.

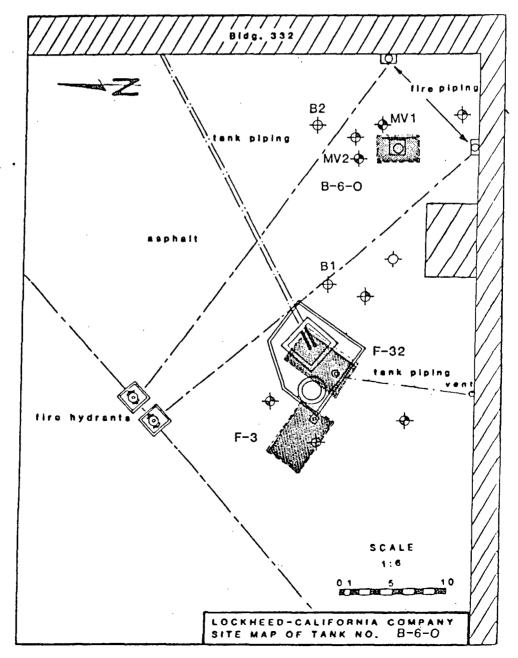
## CONCLUSIONS

Because significant contamination was noted in the field and vitually no contamination was found in the laboratory, the results are inconclusive. It is thought that the contaminate may have been so volatile as to have 'flashed' before the samples reached the laboratory, despite measures taken to prevent such volatilization.

#### RECOMMENDATION

Alternate sampling methods, including but not limited to vacuum pumping through Tennex tubes, are being developed.





### PERTINENT CONSTRUCTION AND PROGRAM DATA

lank Mo.	;	6-6-6
ant No./Near	est blag.	bo/bldg. 332 (NW Side)
Tank:	Location	28ul N. Hairywood #av
	Installation Date	UNK
	Capacity, gal.	UNA
	use/Process	GK).
	;	
	Contents (past,CAS No.,date)	UNK
	(present,LAS No.) ;	biesel, bas Mix
	Construction Materials	UNK
	6eometry	Cylindrical
	bestn To Top	Ukr.
	bepth To Invert	
	Diageter	; 
		i dh.
		l <u></u>
	Containment	Hone:
	Corrosive Protection (2)	i UNK.
	Status	: UNA
Tank Piping	: husser	Ufer.
	Туре	; DHK
	Construction Mat.	i Unik
Site:		i Aspnalt
21(6.		
	Appearance	l Fair-6ood
	Surface Contamination	i Nane
		: :
Ørilling Program	Rig TyperRequirements (3)	.'
	Barings (No.)	i 2
	Sample Deptns	1 81/5,10,22,27,32,40 r 4 82/5,10,22,32,40 fc
		i .
	Sample Depths	4 MVI/13 Ft 4 MV2/13 ft
		i
	Completion interva	1: #V1/3-13.5 ft   #V2/3-13.3 ft
Laboratory F	rogram (4)	· · · · · · · · · · · · · · · · · · ·
	No. of lank Content Samples	;
	Parameters	vol.brg.
	No. of Fank Soil Samples	2
	· ·	

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
CONSTRUCTION DETAILS	DEPTH  - 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 30 38 30 31 -		-30— 30 50 50	-Asphalt -Sand & gravel -Asphalt -Sand, medium to coarse grain, some gravel, brown occasional cobbles  -Strong petroliferous odor to 24 ft
-Concrete, 0-4 ft -Bentonite & clean sand mix 4-40 ft	TAN	IK NO.	B-6	<b>-</b> 0

BORING NO.B-6-0-B1

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- hot	- 0 -	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		-Asphalt -Sand, medium grain,
	66 9	- 2 -			
	50 20	- 4 -	0	2.5	-Asphalt -Sand, medium to coarse
		- 6 -	000	-3.5	grain,brown,w/gravel occasional cobbles at 5 ft,slight odor
	(A)	- 8 -			
	(2) (3) (4) (5)	- 10 -	88	40	-Cobbles vapor (sweet solvent type),occasional
		- 12 -			odor similar to
	0	- 14 -	O O		D 0 0 D1
	4	- 16 -	U		
	0	- 18 -	0		·
		- 20 -			
	9	- 22 -	0 90	-50	
	0 .	- 24 -	00		
	.4	- 26 -			
:	o d	- 28 -	000		
	6	- 30 -	00		
		- 32 -	0	-50	
		- 34 -			
	je do na na na na na na na na na na na na na	- 36 -	Ð		
		<b>-</b> 38 -	$\mathscr{B}$		
	O	- 40 -		39	
	COMPLETION & BACKFILL				
	-Asphalt, 0-0.5 ft -Concrete, 0.5-4 ft				
	-Bentonite, 4-5 ft -Native material, 5-40 ft	TAN	IK NO.	_B-6	<u>i-O</u>
		ВОР	RING N	O. <u>B-</u>	6-O-B2

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 - - 1 -	25万大公 25万大公	-Grab-	Asphalt -Sand, medium to coarse
15 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 2 -			
	- 3, -			
	- 4 -			
	- 5 -			
	- 6 -	176		
	- 7 -	32 G		
	- 8 -			
	- 9 -	a		
	10 -			
	- 11 -	Ŋ		
	- 12 -	6	Grab	
	- 13 -	00000		-Cobbles
	- 14 -			
	- 15 -	·		
	- 16 -			
	- 17 -			
	- 18 -			
	- 19 -			
	- 20 -			
COMPLETION & BACKFILL			<del></del>	

-Blank 2-in I.D. PVC pipe, .3-3 ft -Screened 2-in I.D. PVC pipe, 3-13.5 ft -Concrete, 0-1.5 ft -Bentonite, 1.5-2.5 ft

-Clean sand, 2.5-13.5 ft TANK NO. <u>B-6-0</u> MONITORING WELL NO. B-6-O-MV1

GREGG & ASSOCIATES, INC.

Asphalt Sand, medium to coarse grain, brown, occasional pebbles to gravel pebbles to gravel surface sample-diesel gasoline odor  - 1 5 6 7 8 9 10 8 11 12 13 14 15 16 17 18 19 19 20 -  COMPLETION & BACKFILL	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	COMPLETION & BACKFILL	- 11 12 13 14 15 16 17 18 19 -			-Asphalt -Sand, medium to coarse grain, brown, occasional pebbles to gravel surface sample-diesel

-Blank 2-in I.D.
PVC pipe, .3-3 ft
-Screened 2-in I.D.
PVC pipe, 3-13.3 ft
-Concrete, 0-1 ft
-Bentonite, 1-2.5 ft
-Clean sand, 2.5-13.5 ft

TANK NO. <u>B-6-0</u> MONITORING WELL NO. <u>B-6-0-MV</u>2

GREGG & ASSOCIATES, INC.

PARAMETER	•	1	SAMPLE I	.D.					
	:   BACK   GROUND   SAMPLE	TTLC :	B-6-0 LIQUID	B-6-0 B1 5 ft.	8-6-Ū B1 10 ft.	B-6-U B1 22 ft.	8-6-0 81 27 ft.	8-6-0 81 32 ft.	8-6-0 B1 40 ft.
Volatile Organics (ug/kg)		N.A.	~~~~~	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Benzene	1 (0.2	:	N.D.						
Carbon Disulfide	ì	ì	N.D.						
Carbon Tetrachloride	(0.1	1	± 0.06						
Chloroform	(0.1	4	¥ 0.81						
1,1-Dichloroethene	: <0.1	1 1	N.D.						
Methylene Chloride	1 (0.5	ì	N.D.						
	1 (0.4	1	N.D.						
	1 (0.2	i	<b>±</b> 0.0202						
Trichloroethylene	1 <0.3	2,040;							
Toluene	1 <0.4		N.D.						
Petroleum Hydrocarbon (mg/kg)	\ N.T.	N.A. 1	100 %	N.D.	15.5	N.D.	N.D.	N.D.	N.D.
,	1 <1.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
CAM Metals (mg/kg)		;	N.T.	N.T.	N.T.	N.T.	N. J.	N.T.	N.T.
Antiwony	1 (2.5	500							
Arsenic	1 12.7	500 t					•		
Barium	43.4	10,000							
Beryllium ·	1 (1.0	75							
Cadáium	1 <0.5	100							
Chromium (Total)	6.3	2,500							
Cobalt	1 4.3	8,000							
Copper	1 8.6	250							
Lead	1 (2.5	1,000 0							
Hercury	1 (0.1	20 1							
holybdenum	1 6.9	3,500 1							
Nickel	1 4.1	2,000 1							
Selenium	1 (2.5	100							
Silver	1 (2.5	500 1							
Thallium	1 (2.5	700							
Vanadium	1 12.7	2,400							
Zinc .	21.4	2,500							
Aluminum (mg/kg)	18.9	N.A. 1	. N.T.	N.T.	N.T.	N.T.	N.T.	 .T.	N.T.
Sodium (mg/kg)	1 N.T.	N.A. I	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	И.Т.
Others	!		N.T.	N.T.	N. T.	N.T.	N.T.	N.T.	N. T.
рН	B.19	N.A. :							
Chloride (mg/kg)	I N.T.	N.A. I							
Cyanide (mg/kg)	i N.T.	N.A. :							
flouride (æg/kg)	1 N.T.	18,000 (							
Nitrate (æg/kg)	i N.T.	Ń.A. I							
Sulfate (mg/kg)	i N.T.	N.A.							

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

ŧ ≞q/kq

PARAMETER	1	1							
	I IBACK IGROUND ISAMPLE	TTLC :	8-6-0 82 5 ft.	8-6-0 82 10 ft.	B-6-0 B2 22 ft.	B-6-0 B2 32 ft.	8-6-0 82 40 ft.	8-6-0 MV1 1 ft.	6-6-0 MV1 13 ft.
Volatile Organics (ug/kg)	<u> </u>	N.A.	N.D.	N.D.	N.D.	N.D.	N.Đ.	N.D.	N.T.
Benzene	(0.2	}							
Carbon Disulfide	1	1							
Carbon Tetrachloride	1 <0.1	1							
Chloroform	1 (0.1	1							
1,1-Dichloroethene	1 <0.1	1							
Methylene Chloride	1 (0.5	) 1							
Tetrachloroethylene	1 (0.4	;							
1,1,1-Trichloroethane	1 (0.2	1							
Trichloroethylene	1 (0.3	* 2,040							
Toluene	1 (0.4	- 2,0101							
Petroleum Hydrocarbon (mg/kg)	! N T	.N.A. 1	1.8	N.D.	 N.D.	 N.D.	N.D.	+± 114	(0.1
Oil & Grease (mg/kg)	1 <1.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.I.
CAN Metals (mg/kg)			N.T.	N.T.	 N.T.	 N.T.	N.T.	н.Т.	
Antimony	1 <2.5	500 l			11.11	11. 1.	4.1.	17. 1 .	
Arsanic	1 12.7	500 l							
Barium	1 43.4								
_	1 (1.0	10,000 { 75 {							
Beryllium Cadmium									
	1 (0.5	100 (			•				
Chromium (Total)	1 6.3	2,500 1							
Cobalt	1 4.3	8,000 1	*						
Copper	8.6	250							
Lēād 	1 (2.5	1,000							
Mercury	(0.1	20 1							
Molybdenum	6.9	3,500 1							
Nickel	1 4.1	2,000							
Selenium	1 (2.5	100							
Silver	1 (2.5	500 !							
Thallium	1 (2.5	700							
Vanadium	12.7	2,400							
Zinc	1 21.4	2,500 1	<del>-</del>						
Aluminum (mg/kg)	18.9	N.A. :	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	
Sadium (mg/kg)	! N.I.	N.A. (	.т. 	N.I.	N.T.	N.T.	N.T.	N.T.	
Others	ì	:	N.I.	N.I.	N.T.	N.T.	N.T.	N.T.	
Η̂	8.19	N.A. !							
Chloride (mg/kg)	i N.T.	N.A. !							
Flouride (mg/kg)	I N.T.	18,000 1							
Nitrate (mg/kg)	1 N.T.	N.A. 1							
Sulfate (mg/kg)	N.T.	N.A. (							

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

<sup>≇</sup> ag/kg

<sup>¥¥</sup> Diesel Fuel

#### TANK NUMBER B-6-P

## FIELD PROGRAM

One suction lysimeter, B-6-P-SLl, was installed to monitor subsurface conditions at Clarifier B-6-P.

#### SUCTION LYSIMETER B-6-P-SL1

Monitoring Installations - Suction Lysimeter B-6-P-SLl was installed to monitor both Clarifier B-6-P and diesel Tank B-6-F27. This was because the extremely limited access around Clarifier B-6-P prevented completion of the lysimeter at the original location. Both the actual and approved locations of the lysimeter are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were to have been collected at a depth of 12 feet, according to the approved Work Plan. However, the sample was taken at 15 feet in order to monitor Tank B-6-F27 in addition to Clarifier B-6-P.

<u>Field Observations</u> - The medium to very coarse grain size and dark brown color of the sand remained consistent throughout the entire lysimeter. The frequency of cobbles remained sporadic to depth.

#### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of the tank was collected for laboratory analysis. The samples taken from Suction Lysimeter B-6-P-SLl were composited and analyzed with the samples for Tank B-6-F27.

<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are included in the Laboratory Program and Analysis section for Tank B-6-F27.

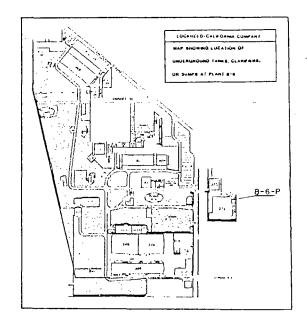
Low levels of petroleum hydrocarbons (10.7 mg/kg) were detected in the samples.

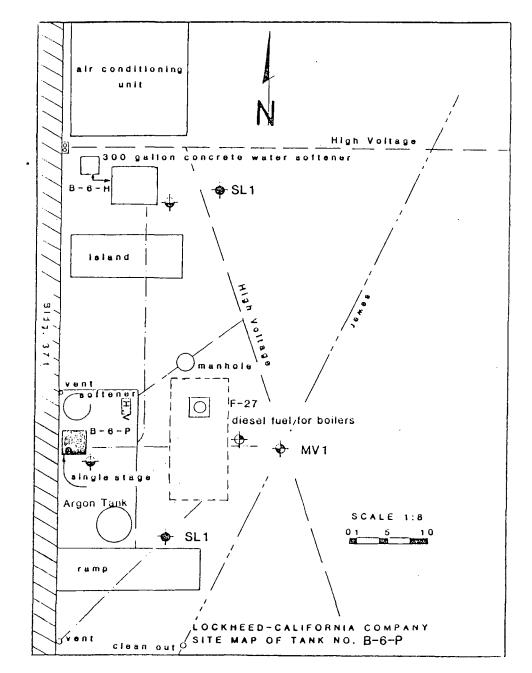
#### CONCLUSIONS

Based on field and laboratory analysis and field observations, it is concluded that the clarifier is not leaking. The low concentrations (10.7 mg/kg) of petroleum hydrocarbons are more likely due to surface spills and other surface sources than to a leaking tank. If the tank were leaking, the levels of contaminants in the soil would be expected to be much higher.

#### RECOMMENDATION

Proceed with quarterly monitoring of the well.





PERTINENT CONSTRUCTION AND FROSENT BATA

lank No.	; ; ;	B~o~r
Flant No./Neare	st blug.	Bb/Bldg. 371 (NW Side)
[anx:	Location :	2801 M. Hollywood Way :
	Installation Date :	UNA ;
	Capacity, gai.	UAI.
	use/frocess :	Single-stage clarifier
	Contents (past,CAS No.,date):	UNK
	tantenes spescions nor junctif	
	; ;	:
	(present,CHS No.) ;	Poss, softener or the
	ì	:
	i i	· · · · · · · · · · · · · · · · · · ·
	Construction Materials	Equipment :
	becmetry :	Square
	besth to Top	JANU
	Deptn Ta Invert	UNK .
	bismeter	3.2 ft widen :
	Length (1)	3.2 ft
	Containment	kúne :
	Corrosive Protection (2)	UNE. ;
	Status	in service :
Tank Piping:	: Number	ink, i
	Type	UNI.
		: 
	Construction Mat.	UNA
Site:	Paving Material/Intriness	
		i Asphalt thorough-ware . I with concrete islance
		L UNK
Drilling Program	Rig Type/Requirements (3)	i H.S. Auger :
i i odi an	Borings (No.)	
	Sample Depths	; ;
		1
	Vapor Weils/Lysiaeters (No.)	
	Sample Depths	
		; ;
	Coopletion Interval	i SL1/10 ft
		1
Laboratory Pr		1
1	No. of lank Content Samples	
	Parameters	; pH,CAM
	No. of Tank Soil Samples	; ;
	Parameters	1
		<b></b>

-	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC	DESCRIP	TION
	CONSTRUCTION DETAILS	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 -		50	-Asphalt -Sand, medium dark brown, n occasional	grain,	TION
		- 17 - - 18 - - 19 -					
		- 20 -			**************************************		
	COMPLETION & BACKFILL						
	-Suction lysimeter at 10 ft -Concrete, 0-5 ft -Bentonite, 5-7 ft -Clean sand, 7-8 ft -Clean sand & native mix 7-15 ft	TAN	IK NO.	B-6-	- <u>P</u>		
		SUC	TION L'	YSIME	TER NO. B-	6-P-SL1	-

PARAMETER	1		;	SAMPLE I.	٥.	
	i TBAEK	TTLC	1	B-6-P	 8-6-P	
	! GROUND		ì		SLI (COMP.	W/F27-HV11
	ISAMPLE		1		15-16 ft.	
Organic Solvents (mg/kg)	!	N.A.	:	N.T.	N.T.	
Benzene	1 (0.2		ļ			
Carbon Disulfide	;		ì			
Toluene	1 (0.4		i			
Isobutyl Acetate	N.T.		ì			
Butyl Acetate	l N.T.		ł			
Acetone	I N.T.		ì			
Carbitol	1 N.T.		i			
Methanol	N.T.		ì			
Isobutyl Alcohol	1		ł			
Isopropanol	i N.T.		¦			
Methyl Ethyl Ketone	1 N.T.		ł			
Methyl Isobutyl Ketone	: N.T.		1			
Petroleum Hydrocarbon (mg/kg)	1 N.T.	N.A.	}	N.T.	10.7	
Dil & Grease (mg/kg)	1 (1.0	N.A.	;	N.T.	N.T.	
Chn metals (mg/kg)	<b>\</b>		ì		N.T.	
Antimony	1 <2.5					
Arsenic	1 12.7	500	1	N.D.		
Barium	1 43.4	10,000	í	N.Ú.		
Berylliu∎	1 (1.0	75	;	N.D.		
Caderue	1 (0.5	100				
Chromium (Total)	1 6.3	2,500	;	0.07		
Cobalt	1 4.3	8,000	ł	0.02		
Copper	8.6	250	ł	0.57		
Lead	1 (2.5	1,000	ì	0.32		
Mercury	{ ⟨0.1	20	ì	0.0006		
Nolybdenum	6.9	3,500	1	N.O.		
Nickel	4.1	2,000	1	0.60		
Selenium	1 (2.5	100	i	0.0003		
Silver	1 <2.5	500	ł	N.D.		
Thallium	1 (2.5	700	¦	N.D.		
Vanadiua	1 12.7	2,400	;	N.D.		
Zinc	1 21.4	2,500	1	8.05		
	18.9			N.D.	N.T.	
Sodium (mg/kg)	1 N.T.	N.A.	1	N.D.	<b>н.Т.</b>	
Others	ţ		1		N.T.	
Нд	8.19	N.A.	l	6.86		
Flouride (mg/kg)	I N.T.	18,000	;	N.T.		
Nitrate (mg/kg)	1 N.T.	N.A.	1	N.T.		
Sulfate (mg/kg)	I N.T.	N.A.	k I	N.T.		

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TILE - TOTAL THRESHOLD LIMIT CONCENTRATION

## TANK NUMBER B-6-Q

## FIELD PROGRAM

One boring, B-6-Q-Bl, and one vapor monitoring well, B-6-Q-MVl, were drilled/installed to monitor subsurface conditions at waste oil Sump B-6-Q.

# BORING B-6-Q-B1/VAPOR MONITORING WELL B-6-Q-MV1

Monitoring Installations - Boring B-6-Q-Bl was drilled as indicated on the site map. Upon completion, the boring was backfilled with clean sand and bentonite to 20 feet and a vapor monitoring well was installed. The boring and vapor monitoring well were installed, per RWQCB directives, in lieu of the inspection originally planned.

Sampling Intervals - Soil samples were taken at depths of 3, 5, 10, 15, 23, 32 and 40 feet.

Field Observations - The medium fine to very coarse grain size and brown color of the sand remained consistent throughout the entire 40 feet of the boring. The frequency of cobbles increased at 5 feet and continued to 9 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The soil at 10 feet to 33 feet had a strong odor, which decreased with depth, indicating possible contamination.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in three, 55-gallon drums approved for storage of hazardous waste.

### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - A liquid sample of the contents of the tank was collected for laboratory analysis. Based on field observations indicating the potential presence of volatile organics in the soil samples, individual depth samples, rather than a composite sample, were analyzed in the laboratory. Also, volatile organics were analyzed in addition to the hydrocarbons approved in the Work Plan.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-Q. A total of seven volatile organics were detected in the samples, suggesting that the soils had been contaminated. The concentration levels range from a low of 9.8 ug/kg of benzene at 40 feet to a high of 48.4 ug/kg of toluene at 5 feet.

# TANK B-6-Q (continued)

### CONCLUSIONS

The relatively high concentration of volatile organics at shallow depths near the bottom of the tank and the position of some volatile organic species with respect to depth strongly suggests that Sump B-6-Q is leaking. Although benzene and carbon disulfide were detected in the samples, those chemicals are not known to be in direct usage currently. Both chemicals can, however, be contaminants in fuels and solvents. It is known that benzene has been used as a fuel booster in the past and carbon disulfide is an active rodenticide ingredient used in the area.

# RECOMMENDATION

Additional subsurface sampling and analysis should be conducted to further determine whether the origin of the contamination is from the leakage of the tank and to quantify the extent of contamination.

TANK NUMBER B-6-Q supplement

### ADDITIONAL INVESTIGATIONS

Sump B-6-Q is a large, trench-like sump constructed to receive runoff from an adjacent concrete slab west of the sump. This slab, which is currently used as a drum storage area, was originally used to facilitate experimental fueling operations. The sump or trench is constructed of reinforced concrete and was poured monolithically. The trench is 100-feet long and drains into a two stage clarifier at the east end of the sump.

Chemical analysis of soil samples collected during the initial drilling indicated the presence of contamination in the soil near Sump B-6-Q. The contamination present consists of moderate to high levels of benzene, carbon disulfide, and toluene, (Table B-6-Q). Although the obvious source of contamination would be the Sump, B-6-Q, chemicals found in the soil are not known to currently be in direct usage. It was therefore, postulated that the source of these chemicals was fuel contaminates once used in the area. If area-wide fuel spillage had occurred, soil contamination should extend away from the sump in relatively equal proportions, as there is no major gradient or lithological variations in the area. This was not found to be the case.

Two 80-foot borings were drilled in December of 1984 to further delineate the chemical characteristics of the soil. Other than some petroleum hydrocarbon, no significant contamination was noted. The laboratory results of these boring samples from borings, B-6-82-T1 and B-6-82-T2, are included at the end of this report. Because these additional borings revealed no area-wide contamination, attention was again focused on Sump B-6-Q as being the most likely source. It was therefore recommended that a visual inspection be conducted to determine the integrity of the sump. This was done with approval by Mr. Al Novak, RWQCB.

Prior to the visual inspection, it was necessary to clean and pump the sump to expose all concrete surfaces. On the day of the visual inspection (May 24, 1985), the sump contained waste oil and a significant amount of compacted, sludge-like sediment. The sediment covered the length of the sump and ranged from 1 to 6 inches in thickness. Because the dense, compact nature of the sediment precluded pumping, it was necessary to loosen the

# TANK NUMBER B-6-Q supplement continued

sediment with shovels prior to vacuming. The entire sump and end clarifier were then cleaned with a strong jet of water from a high pressure fire hose. The remaining oil, sediment, and rinse water were pumped out upon inspection and transported to a licensed hazardous waste facility.

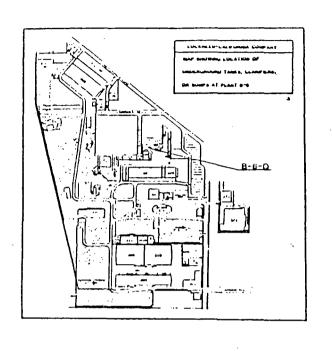
The condition of the sump upon inspection appeared to be The concrete was deteriorated in many areas and generally poor. there were several structural inadequacies related to poor The precise location and nature of the construction techniques. problems observed during the inspection of the sump are shown in the inspection diagram. The deteriorating or crumbling concrete generally confined to the section of concrete near the top of the sump where the surface is angled approximately 45 from vertical. Because this section of the sump is far above the typical liquid level, it is probably not a contributing factor to the adjacent soil contamination. There is, however, an area of deteriorated concrete on the east end of the sump floor that is a probable liquid conduit. The deteriorated area is circular, and about 10 inches in diameter at the surface. The visible deterioration extends into the concrete about 2.5 inches, but it very likely that the disturbed area extends throughout the remaining 1.5 inches of the floor thickness.

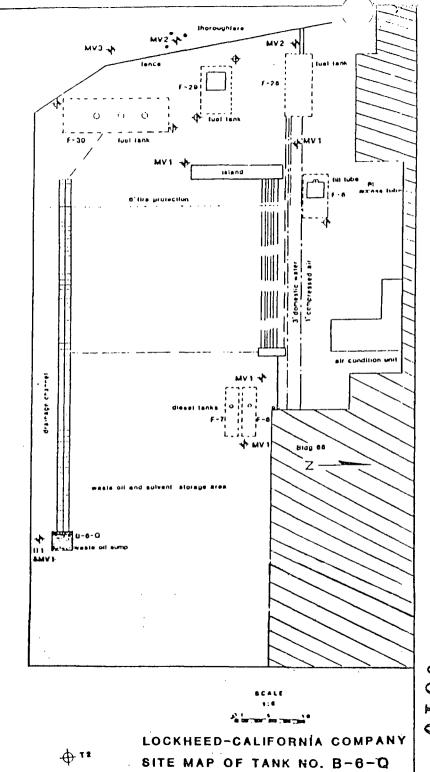
Other problems found during the inspecton include a possible liquid conduit located 2.4 feet above the floor, at the outflow point to a 4-inch metal pipe. It is doubtful, however, that the fluid level in the trench ever reached this height. Also, along the intersection between the floor and south wall of the sump, there is a hollow space or gap, which extends partially through This gap is apparantly the result of the concrete. placement of form boards during the construction of the sump. While the concrete present in the gap is not deteriorated, the remaining wall is relatively thin (2-inches thick) and should be The contamination present in considered as a possible conduit. adjacent soil is most probably attributable to leakage through one or more of the possible conduits mentioned above. The fact that the sump does not currently contain constituents found in the adjacent soil does not exclude the possibility that the sump may have previously contained compounds which, in the enviroment, may biodegrade into the chemicals found in the soil. example, carbon disulfide and organochlorine pesticides not degrade readily in the environment. Such compounds may have been inadvertantly introduced into the sump via a rodenticide possibly used in the area.

TANK NUMBER B-6-Q supplement continued

### FURTHER RECOMMENDATIONS

Because the entire sump is no longer in service and is slated for abandonment, no further action is recommended. Sump B-6-Q will likely be filled with clean sand, compacted in 6-inch lifts, and capped with concrete at grade.



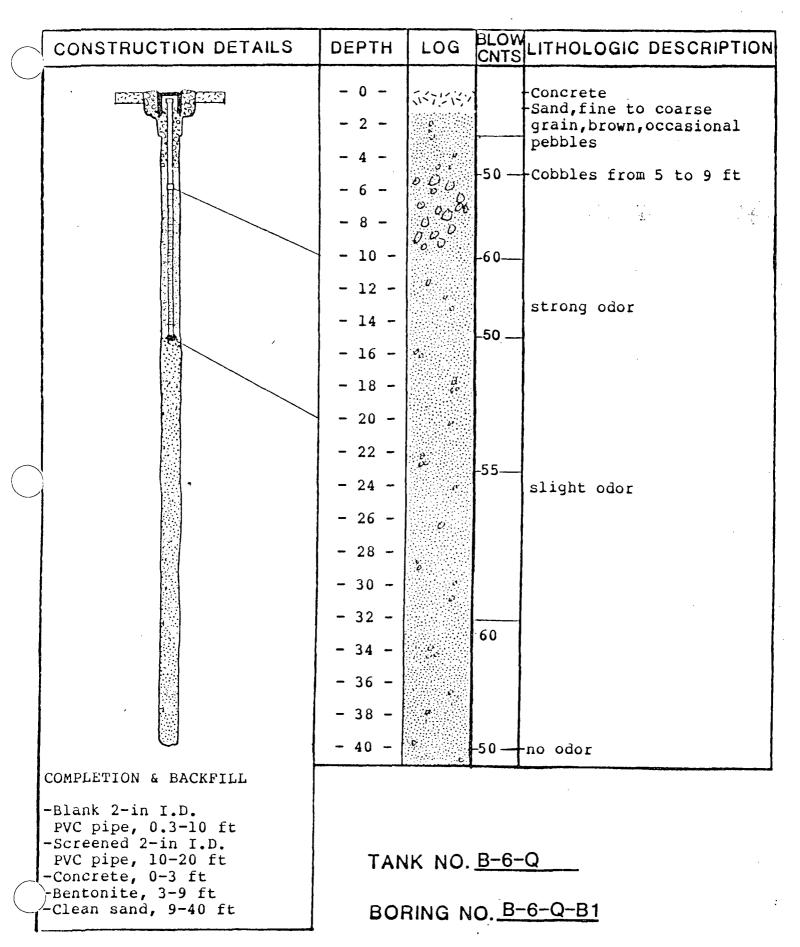


PERTINENT CONSTRUCTION AND PROBLAM DATA

lauk No.	;	B-ó-è
lant No./Neare		bo/bldg. 68 (3 Side)
lank:	Location	2801 N. Hollymood may
	Installation Date	UNK
	Capacity, gal.	Uhr.
	Use/Process :	brainage sump
	i	•
	Contents (past,CAS ho.,date)	UHK,
	;	
	(present <sub>i</sub> úhá No.)	Grainage water and oil
	Construction Materials	Concrete
	beometry	nectangular
	Depth lo lop	UNK
	bepth To Invert	5 rt
	Diameter	4.5 it midts
	••••••	i
	Lengtn (1)	5.5 rt
	Containment	i Kone
	Corrustive Protection (2)	Uhi.
	Status	in service
lank Piping:	Number	UNK
	Туре	unk.
	Construction Mat.	i uni.
Site:		i <b></b> _
gite.	Faving Material/Thickness	i
	Appearance	600g
	Surface Contamination	i
		; ;
Ørilling Program	fig Type:fequirements (3)	: H.S. Huger
	borings (hú.)	l !
	Sample Depths	:81/3,5,10,15,23,32,40 f
	Vapor Wells/Lystaeters (No.)	i I
	Sample Depths	MV1/REF. Từ Bi
		: i
	Completion Interval	MV1/10-26 ft
		· ·
Laggratory Pro		: ;
	No. of Tank Content Samples	1
	Parameters	: pH,Hyarocurbons
	No. of Tank Soil Samples	` <del></del>
		: pri,vel.brg.

## FERTIMENT CONSTRUCTION AND ANDARGNAM DATA

ing to the	rest Eign	:
lant No./Nes		i
Tank:	Locat:on	: Zāvi h. mailymada may 
	Installation bate	( UN).
	Canacity, gal.	UNK.
	Üserfrocess	. Úrainage su <b>a</b> p
	Contents (past,CAS No.,pate)	: : Una
		! : :
	ipresent,CAS No./	. Wrainage water and oil : :
	iunstruction daterrals	l : : Concrete
	Gegretry	. Fectangular
	ûeptn în ins	UNF
	Septo io invert	. Sit !
	Drameter	: 4.5 ft weath
	Length ill	5.5 ft
	Containment	. None
	Carrosive Protection (2)	UNK
	Status	i In service
Tank Fiping	: Nueger	i ukk
	Туре	: : UNA :
	Construction Mat.	! UNK
Site:	Faving naterial/Thickness	. Concrete
	Appear ance	500á
	Survace Contamination	: : UNA.
Orilling Program		Inspection
	borings (No.)	. 1
	Sample Depths	: {81/3,5,10,15,23,32,40 ft {71/5,10,20,30,40,a5,a0 ft {72/5,10,20,,30,40,50 ft
	vipor metts/Lysimeters (ho.)	1
	Sample Weptns	MVI/REF. TO SI
	újapietion interva:	mvi/tú-Cu ft
acoratory fr	ogram (4) No. oj Tank Cuntent Samcies	1
		i pHinyarocarbons Val. Grg.
	Ao. or fant Soil Samples	·
	rarameters	on,val.úra,
		hvarocartions



PARANETER	1		SAMPLE	1.D.					
•	1 BACK	TTLE	; 5-6-Q	8-4-6	8-a-Q	B-6-Q	8-6-0	B-4-Q	8-4-Q
	16ROUND		LIQUID	Bi	B1	B1	B1	B1	<b>5</b> 1
	ISAMPLE		1	5 ft.	10 ft.	15 ft.	23 ft.	32 ft.	40 ft.
		N.A.	 1						
	1 (0.55		1 N.T.	37.3	N.D.	N.D.	11.0	11.5	9.B
Toluene	1 (0.75		I N.T.	48.5	N.D.	N.D.	27.0	29.3	32.0
Isobutyl Acetate	! N.T.		1 + 0.1	N.T.	N.T.	N.T.	N.T.	N.T.	N.D.
Carbon Disulfide	l N.T.		N.T.	30.0	N.D.	23.8	N.D.	N.D.	N.D.
1,1-Dichloroethene	1 (0.35		l N.T.	16.5	N.D.	N.D.	N.D.	N.D.	N.D.
Acetone	: N.T.		1 * 2.7	N.D.	N.D.	N.D.	N.Đ.	N.D.	N.D.
Trichloroethene	1 (0.24		I N.T.	37.0	N.D.	N.D.	N.D.	N.D.	N.D.
	1 <0.48		N.T.	24.0	N.D.	N.D.	N.D.	N.D.	N.D.
• •	1 (0.51		N.T.	34.3	N.D.	N.D.	N.D.	H.D.	N.D.
	i N.T.			N.T.	N.T.		N.T.	N.T.	N.T.
	1 N.T.		1 * 0.6		N.D.			N.D.	N.D.
The contract of the contract o									
Petroleum Hydrocarbon (mg/kg)						N.D.	N.D.	N.D.	N.D.
Oil & Grease (mg/kg)	(1.0 	N.A. 	! N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
CAM Metals (mg/kg)	i I		N.T.	N.T.	N.T.	N.I.	N.T.	N.T.	N. T.
Antimony	1 (2.5	500	1						
Arsenic	1 12.7	500	1 4						
Barium	43.4	10,000	1						
Beryllium	1 (1.0	75	ì		•				
Cadaius	1 (0.5	100	1						
Chromium (Total)	l 6.3	2,500							•
Cobalt	1 4.3	8,000							
Copper	8.6	250	}						
Lead	1 (2.5	1,000							
hercury	1 (0.1	20	}						
Molybdenum	6.9	3,500	1						
Nickel	4.1	2,000	1						
Selenium	1 <2.5	100	l						
Silver	1 (2.5	500	1						
Thallium	1 (2.5	700	i						
Vanadium	1 12.7	2,400							
Zinc	1 21.4	2,500	}						
Alumiaum (mg/kg)	18.9	N.A.	l N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N. T
Sodium (mg/kg)	! N.T.	N.A.		N.T.	N.T.	N.T.	, N. T.	N.T.	N.T.
Others			1						
ρH	8.19	N.A.	1 6.34	5.82	5.47	7.14	<b>6.8</b> 0	5.63	5.20
Chloride (mg/kg)	N.T.	N.A.	i N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Cyanide (mg/kg)	i N.T.		N.T.	N.T.	, N. I.	N.T.	N.T.	N.T.	N.T.
Flouride (mg/kg)	N.T.		1 N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Nitrate (mg/kg)	N.T.	N.A.		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Sulfate (mg/kg)	I N.T.	N.A.		N.T.	N.T.	N.T.	N.T.	N.T.	N.T.

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED
N.T. - NOT TESTED
THE - TOTAL THRESHOLD LIBIT CONCENTRATION

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW	LITHOLOGIC DESCRIPTION
COMPLETION & BACKFILL  Asphalt patch at surface  Bentonite, 0-5 ft  Parent material, 5-81 ft	- 0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64 68 72 76 80 -		50 50 56	Asphalt  Ring sample at 5 -Sand, brown, medium to coarse, no odor, gravel and large cobbles Ring sample at 10 -At 10, becoming coarser, more multicolored and larger pea gravel Ring sample at 20  Ring sample at 20  Ring sample at 30 -Sand, multicolored, medium to coarse, occasional gravel  Ring sample at 40 -At 40.5, very dramatic lithologic change -Sand, brown, fine to medium, moist -Sand, brown with some multicolored, coarse, some cobbles  -Cobbles become abundant at 57  Ring sample at 80 -End of hole at 81
	TAN	IK NO.	B-6	6-Q

TANK NO. B-6-Q

BORING NO. <u>B6-82-T1</u>

					•
	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
		- 0 -			Asphalt
	0.4 0.4 201	- 4 -	0 0	37	Ring sample at 5 Sand, multicolored,
	0	- 8 -		36	coarse, some gravel Ring sample at 10
٠	<u>o</u>	- 12 -	0		nang sample de 10
		- 16 -	>		
	<b>Ø</b>	- 20 -	0	50	Ring sample at 20 Sand, multicolored,
		- 24 -	۵		coarse, some gravel
	<b>6</b>	- 28 -	9	50	Ring sample at 30
		- 32 -	0		
	a	- 36 -	ø		Dis1
	25	- 44 -	0		Ring sample at 40 Sand, multicolored,
1		- 48 -	o		coarse, some gravel and cobbles
		- 52 -			
	•	- 56 -			
	2	- 60 -			
!	4: . 4: . 3: 0	- 64 -	Ð		Sand continues, multicolored, coarse,
		- 68 -	O		some gravel and cobbles
	0.0	- 72 -			Ring sample at 80
		- 76 -			-At 80, Sand, brown, fine to medium
	COMPLETION & BACKFILL -Asphalt patch at surface	- 80 -			-End of hole at 81
	-Bentonite, 0-5 ft -Parent material, 5-81 ft				
્ા		A A		D (	

TANK NO. B-6-Q

BORING NO.<u>B6-82-T2</u>

FARAKETER	DETECTION	TILL	£-5-52	20002	5-5-82	5-6-62	b-s-62	8-6-82
	: LIMIT		Ti	71	7.1	71	TI	Ti
•	i		( 3 ft	10 (1)	20 ft	3ú ft	40 ft	65 ft
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			! ! !					
halogenateo Volatile Organica (ug/kg/ EFA Methoo Guiù	:		i :					
era nachud bulu - Bromosiomioromathana	0.16	N.A.	. N.D.	K.D.	N.G.	a.b.	N.Ū.	N.G.
	0.70	N.A.	. K.S.	N.D.	N.D.	N.O.	N.Ū.	N.D.
romorarm	i 0.70	M.A. M.A.	. K.D. ! N.D.	N.D.	N.D.	и.D.	N.D.	N.D.
Sramamethane	1 0.10		. N.D. I N.D.		N.D.	N.Ū.	и.D. N.D.	N.D.
Larbon tetrachioride			: M.D. : M.D.	N.Đ.	พ.บ.		и.в. Н.В.	N.O.
unior openzene	0.80	N.A.	. M.D. 1 M.D.	N.J.		N.D.		
Entoriethane	0.80	h.A.		N.D.	N.D.	a.ū.	N.J.	Ν.Ū.
Griereren	; 0.10	M.A.	l a.D.	h.5.	N.L.	ä.Ö.	N.D.	N.5.
In pleasetayl vibel einer	. 0.10		. N.J.	N.D.	N.Ů.	н.Б.	N. u.	N.D.
Chioremethane	. 0.20	М.Н.	i N.Ú.	a.b.	N.D.	N.D.	ĸ.b.	М.О.
bioromuchioromethane	( 0.10		i N.O.	<b>€.</b> 0.	λ.û.	N.D.	N.D.	N.D.
ibich.orodenzene	; ⊎.40	N.A.	N.9.	N.D.	ĺγ.Ū.	й.Đ.	N.D.	M.D.
i.a-bica.eropeadema	0.40	N.A.	N.D.	ж.Б.	ά.Û.	я.э.	R.D.	N.D.
i,bismloropenzene	0.60	М. А.	i k.b.	м.Б.	Ж.D.	N.Ū.	H.D.	N.D.
1.1-5.ch.oroethane	1 0.10	N.Ä.	N.O.	h.u.	N.Û.	N.Ū.	N.D.	
1,2-bichloroethane	1 0.10	₩.â.	i N.S.	М.Б.	N.Ď.	N.D.	N.D.	N.D.
1.1-Bichlargethame	0.10	N.A.	N.D.	ñ.Ū.	N.D.	N.D.	N.Ū.	N.D.
trans-1,2-Bichloroethene	0.10	й.н.	i W.D.	W.D.	iŧ.Ď.	N.D.	8. D.,	1. H.D.
1.1-Bichloropropane	( 0.10	N.A.	i N.D.	N.5.	N.D.	N.5.	N.D.	N.D.
trans-1.3-0icmlorourogene	0.10	N.A.	. N.D.	k. 0.	N.D.	M. 0.	N.D.	N.D.
1.1,2,2-Tetrachlorgathana	0.40	Ñ.A.	. N.D.	N.D.	N.D.	N.Ū.	N.D.	N.D.
Tetrachioroethene	1 0.40	N.A.	i N.D.	N.D.	N.D.	N.D.	N.D.	N. D.
1.1.1-Trichloroethane	0.20	S.A.	l N.D.	N.D.	N.D.	N.D.	N.D.	H.D.
1.1,2-Trichloroethane	1 0.10		i N.D.	N.S.	N.D.	н.Б.	N.D.	'n.U.
inicolorgethane	0.30	≆2,040		N. 5.	N.D.	K.J.	N.D.	N.D.
Vinyi Chloride	0.20	N.A.	. K.D.	N.O.	N.D.	N.D.	N.D.	N.D.
Archatic Volatile Organics (ug/kg)	, 0,20	11. 11.		14.0.	34 L 4	H.V.	M. U.	ıκ.υ.
EFA Method 8020	!		1					-
Enzene	i 0.20	N.Á.	i N.D.	i. s	4: 5:	e 5	A: Fi	N.ô.
Enlar obenzene	0.20		i N.D. I N.D.	Ж.Ď. ъ Э	N.D. N.D.	M.Ū. M.Ū.	N.D.	и.и. М.О.
- Enteropenzene - Eravi <b>ben</b> zene	1 0.10	N.A.		N.D.			N.O.	
				N. Ö.	N.U.	Ŕ.D. ≕ ∧	N.Ú.	Ñ.Đ.
Soldene	: 0.40 	ĸ.ĥ.	! ж. <b>9.</b> !	N.5.	Ń.Đ.	и.Э.	N.D.	· N.ā.
Fetroleum Hydrocarcons (mg/kg)	:		i					
EPA Method 413.1	1 **9.5	25 <b>u</b> 0	5.9	N.O.	N.U.	26.8	3,7	11.9

<sup>\*</sup> silligrams per kilogram (mg/kg)

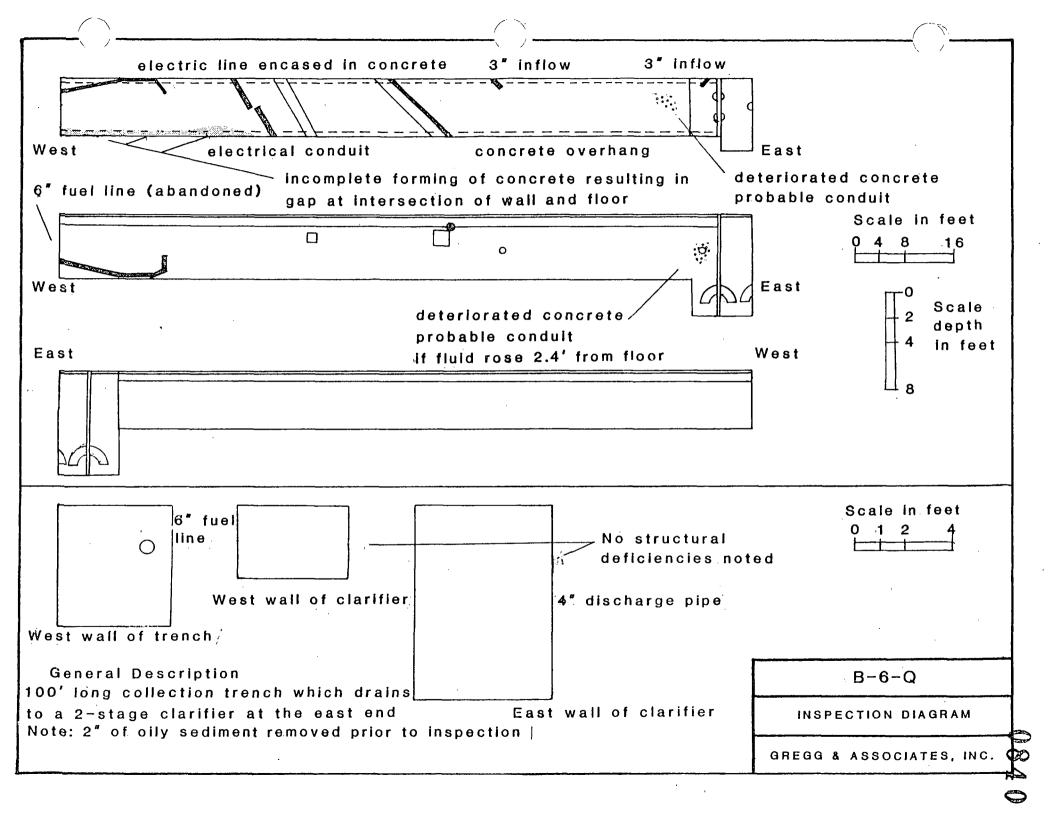
<sup>\*\*</sup> Average Values Jocained From dachground Concentrations For Eockneed Flant 8-1

N.A. -sor Available; N.D. -Not Detected; N.T. -Not Tested

FARAGE (ER	TOETECTION	TTLC	, <b>5</b> -0-52						8-5-52	3-5-5
	t cimii		i 72	ĭ2	12	72	12	DUFLICATE	77	12
	:		: 5 ft	tú ft	20 ft	30 +t	45 ft	45 ft	60 ft	80 ft
-alugenadao Volstila Grganics (ug/kg/	-		! :							
EFA retada Bolo	:		į							
erdeceichieromethane	i 0.10	N.A.	H.Û.	N.D.	M. 0.	N.O.	'n.ū.	N.O.	N.S.	N.D.
bresseror in	i 0.70	N.A.	H.D.	a.b.	N.D.	N.D.	N.D.	N.D.	Ν.Β.	N.D.
oroc.reinane	; Ú.10	N.A.	N.D.	₩.ŭ.	N.O.	Ñ.Ď.	N.B.	N.D.	N.O.	N.D.
Caruch cetrachionide	0.10	N.A.	! N.D.	N.D.	N.D.	N.D.	N.D.	м. Э.	N.D.	H.D.
Enlarosomoene	0.50	h.ń.	N.B.	N.Ū.	რ.Ď.	N.Đ.	W.D.	N.Ū.	N.D.	a.ē.
Calcagacaase	: 0.50	Ä.A.	i 8.5.	и.Б.	ж.D.	N.D.	₩.9.	8.5.	₩.Đ.	Ħ.Ď.
étie: Itana	1 0.10	N.H.	i a.b.	N.D.	a.0.	a.ū.	N.Ū.	N.Ū.	M.D.	8.5.
l-majorostnyl vinyi ether	0.20	N.A.	i M.D.	N.D.	N.D.	ā.D.	N.D.	Ŕ.D.	N.D.	N.D.
Entoroleinana	1 9.20	N.A.	! N.D.	M.D.	Ń.Ů.	N. Đ.	N.D.	N.D.	N.D.	N.D.
Scarcedonioroaethene	l 0.10	A.A.	N.D.	H.D.	N.D.	N.Đ.	й. Ď.	N.D.	N.D.	N. 0.
1. Pálopianacenzene	0.40	N.A.	1 N.S.	h.ú.	N.J.	N.Û.	ĸ.Đ.	K.D.	8.D	M.Ū.
1,0-bechionobeazene	0.40	s.a.	1 4.0.	Ņ.Ď.	N.B.	N.Đ.	N.D.	к.д.	N.D.	N. 9.
i	1 9.50	N.A.	a.5.	N.E.	N. D.	N.Ö.	N.Ú.	N.Ď.	R.D.	A.Q.
t.: bezhior bethane	0.16	k.A.	i N.D.	'n.D.	N.D.	N.D.	N.D.	N.D.	N.5.	Ν.Ū.
1.1-9:chiongethane	( 0.10	N.A.	A.D.	N.Ū.	N.O.	н.D.	и.b.	N.D.	N.D.	N.O.
::::b:cn:urbethene	i 0.10	N.A.	: N.D.	N.Đ.	N.D.	N.D.	N.D.	N.D.	N.D.	W.D.
ingher:.emulchichdeshehe	0.10	h.ä.	: M.G.	ĸ.ö.	N.O.	h.O.	ĸ.Ū.	N.D.	N.S.	N.O.
ill-sightenoorspane	0.19	લે. તે.	: N.S.	N.D.	N.D.	w.D.	W.D.	N.D.	N.D.	W.D.
trans-1.7-bichlerooresens	1 0.10	М.н.	i N.b.	N.Ö.	a.O.	ŭ.5.	K.D.	N.D.	N.O.	N.Ū.
1.1.2.2 letraculargethame	0.40	li.A.	N.E.	N.D.	R.D.	N.D.	N.ΰ.	N.D.	R.D.	N. J.
letricalcroethers	. v.40	h.n.	N.D.	N.D.	N.D.	N.S.	N.D.	N.D.	N.D.	N.D.
i,l,i-ir:chloroethane	0.20	й.А.	i N.D.	N.O.	N.D.	Ν,Ď.	N.D.	N.D.	N. D.	N.D.
ii- richicroetmane	0.40	N.A.		N.O.	N.Ô.	N.D.	N.Ū.	N.D.	N.D.	
Tricalogoetaene	0.30	#2,640		N.Ö.	Ñ.D.	ñ.o.	N.D.	N. D.	N.Đ.	, н.Б.
vinul Chiorica	: 0.20	N.A.		Н.Ď.	A.D.	Ν.Ď.	W.D.	N.D.	N.O.	N.D.
Aromatic volatile Organics (ug/kg)	i		1							.,,
EFH hechas 6020	1		1							
ร็อมรอดอ	: 0.20	N.A.	. N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Calorosenzene	0.80	N.A.	1 N.S.	N.D.	N.O.	N.Đ.	N. 0.	N.Û.	N. D.	N.D.
	i v.10			M.D.				N.D.		H.D.
Polasis	: 0.40	N.A.	i N.O.							
etroleum hydrocardons (mg/kg)	- \		: 							
EFA Method 913.1									2.3	

<sup>\*\*</sup> Average Values Obtained From Gackground Concentrations For Lockheed Plant 8-1

M.A. -Mot Available; N.D. -Not Detected; N.T. -Not Tested



#### TANK NUMBER B-6-R

## FIELD PROGRAM

Two borings, B-6-R-Bl and B-6-R-B2, and three vapor monitoring wells, B-6-R-MVl, B-6-R-MV2, and B-6-R-MV3, were installed to monitor subsurface conditions at waste oil Tank B-6-R.

#### BORING B-6-R-B1

Monitoring Installations - Boring B-6-R-Bl was drilled slightly north and west of the approved location due to rig access problems. Both the actual and approved locations of the boring are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at depths of 8, 20, 25, 30 and 40 feet, as approved in the Work Plan.

Field Observations - The medium to coarse grain size and brown color of the sand remained consistent throughout the entire boring. The frequency of cobbles increased at 10 feet and continued to 11 feet, and increased again from 13 to 14 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There were no indications of contamination.

#### BORING B-6-R-B2

Monitoring Installations - Boring B-6-R-B2 was drilled as indicated on the approved Work Plan. The location of the boring is indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at depths of 8, 20, 25, 30 and 40 feet, as approved in the Work Plan.

Field Observations - The medium to coarse grain size of the sand became increasingly coarse with depth. The frequency of cobbles increased at both 7 and 14 feet, with each zone approximately 2 feet thick. The soil was brown in color throughout the boring.

There were no indications of contamination.

#### VAPOR MONITORING WELL B-6-R-MV1

Monitoring Installations - Boring B-6-R-MVl was installed slightly north of the approved location due to reassessment of pipeline locations. Both the actual and approved locations of the boring are indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 15 feet, as approved in the Work Plan.

## TANK B-6-R (continued)

Field Observations - The medium to coarse grain size of the sand became increasingly coarse with depth. The frequency of cobbles increased at both 7 and 14 feet, with each zone being about 1 foot thick. The soil was brown in color throughout the entire vapor monitoring well.

There were no indications of contamination.

## VAPOR MONITORING WELL B-6-R-MV2

Monitoring Installations - Boring B-6-R-MV2 was installed initially for hydraulic conductivity testing. A falling head permeability test will be run to replicate a tank leak in the subsurface. This site was chosen because the lithology is typical of the majority of Plant B-6 tank sites. After the tests are complete, the test well will be converted to a vapor monitoring well for Tank B-6-R.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 15 feet.

<u>Field Observations</u> - The medium to coarse grain size and brown color of the sand remained consistent throughout the entire well. The frequency of cobbles increased at 3, 7, and 12 feet, and continued to 4, 8, and 13 feet, respectively.

There were no indications of contamination.

#### VAPOR MONITORING WELL B-6-R-MV3

Monitoring Installations - Vapor Monitoring Well B-6-R-MV3 was installed as indicated in the approved Work Plan. The location of the well is indicated on the site map.

Sampling Intervals - Soil samples were to have been collected at a depth of 15 feet, according to the Work Plan. However, reassessment of the tank depth necessitated shifting the sample interval to 13 feet.

<u>Field Observations</u> - The medium to coarse grain size and brown color of the sand remained consistent throughout the entire well. The frequency of cobbles increased at 7 and continued to 8 feet.

There were no indications of contamination.

## LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The samples were analyzed as approved in the Work Plan.

## TANK B-6-R (continued)

<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-R.

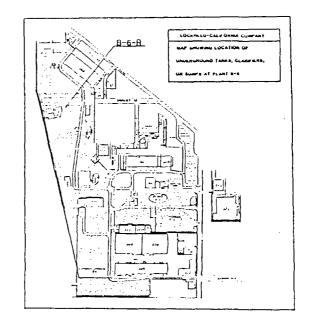
Low levels of petroleum hydrocarbons (22.2 to 24.3 mg/kg) were detected in the samples.

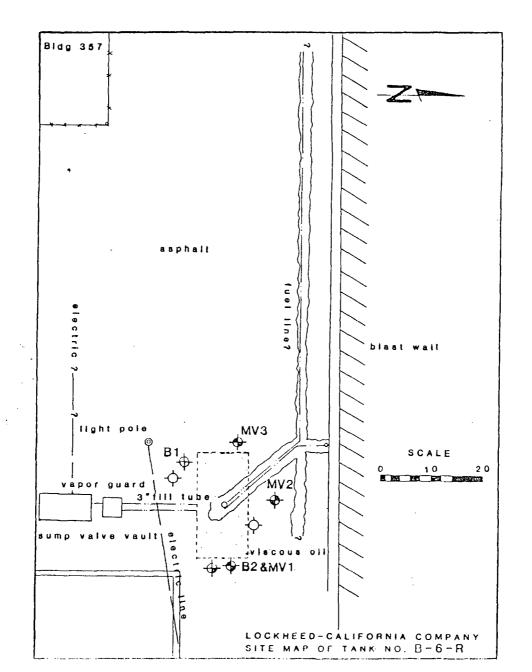
## CONCLUSIONS

Based upon field and laboratory analysis and field observations, it is concluded that the tank is not leaking. The low concentrations (22.2 to 24.3 mg/kg) of petroleum hydrocarbons found are more likely due to surface spills and other surface sources.

## RECOMMENDATION

Proceed with quarterly monitoring of the wells.





PERTINENT CONSTRUCTION AND PROGRAM DATA

lank No.		9-o-ƙ
Plant No./Near		Bo/Blag. 357 (~66 ft E)
lank;		2601 N. Hollywood Way
	Installation Date	URK.
	Capacity, gal.	
		UNK
	Use/frocess	Jak
	contents (past,CAS No.,date)	UNK
	(present,CAS No.)	Viscous cil
		:
	Construction Materials	Steel
	Geometry	Cylinaricai
	Depth la lap	UNA.
	Depth To Invert	i i 14.9 ft
	Diameter	UNK
	Lengtn (1)	i
	Containment	Kone
	Corrosive Protection (2)	! UNK
	Status	UA).
lank Piping:	huaber	Urik
	lype	: Uhe.
	Construction Mat.	t unk
Site:	Faving Material/Thickness	i Asynait
		Disturbed Asphale
	. 25	: Around Site
	Serface Contamination	I UNK
Brillian	Rig Type/Requirements (3)	· WS Augar
Program	borings (No.)	. not nayer
	Santa fanha	, 6179 20 25 30 10
	sample veptns	: : 01/8,20,25,30,40 +t : 02/8,20,25,36,40 ft
	*	i
	vapor weits/Lysimeters (No.)	:
	Sample Depths	t MV2/15 Ft
		: MV3/13 {t
		: MV1/3-13.1 ft : MV2/3-13 ft
		: MY3/3-13.7 ft :
Laboratory Fro		; ; }
	No. of Tank Soil Samples	; 3(Coup.)
	Parameters	Hydrocarbons
		: 

ſ				BLOW	0010		
	CONSTRUCTION DETAILS	DEPTH	LOG	CNTS	LITHOLOGIC DESCRIPTION		
		- 0 - - 2 -	なながれる		Asphalt Sand, fine to coarse grain, brown, moist,		
		- 4 -	c V		occasional pebbles		
		- 6 -	0				
		- 8 -		35			
		- 10 -	0000		-Cobbles		
		- 12 -	0000		Cabble a		
		- 14 -	0000		-Cobbles		
	Ö	- 16 -	w				
		- 18 -	0		*		
	(a)	- 20 -		-50	increasing coarseness w/depth		
	*** *** ***	- 22 -					
	) .	- 24 -	o.				
		- 26 -		67			
		- 28 -	0		·		
	<b>2</b>	- 30 -	ç	62			
		- 32 -		02			
		- 34 -	•				
ļ	<u>a</u>	- 36 -	0 0				
		- 38 -	4				
		- 40 -	Ò	74—			
	COMPLETION & BACKFILL	<del></del>					
	-Asphalt, 0-0.5 ft -Concrete, none -Bentonite, 0.5-3 ft -Clean sand, none -Native material, 3-40 ft	TAN	IK NO.	B-6-	-R		
		BORING NO. B-6-R-B1					

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
		- 0 - - 2 -	グルング		Asphalt Sand,fine to coarse grain,brown,moist, occasional pebbles
		- 4 - - 6 - - 8 -		33	-Cobbles
		- 10 - - 12 -			
		- 14 - - 16 -			-Cobbles
	) o	- 18 - - 20 -		87	increasing coarseness w/depth
	0	- 22 - - 24 - - 26 -		66	
	0 1	- 28 - - 30 -		86	
		- 32 - - 34 -			
	4	- 36 - - 38 - - 40 -		50	
	COMPLETION & BACKFILL				
	-Blank 2-in I.D. PVC pipe, 0.3-3 ft -Screened 2-in I.D. PVC pipe, 3-13.1 ft -Concrete, 0-2 ft TBentonite, 2-3 ft	TAN	IK NO.	B-6	-R
ĺ	Clean sand, 3-13 ft -Native material, 13-40 ft	ВО	RING N	0.B-	6-R-B2

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW	LITHOLOGIC DESCRIPTION
CONSTRUCTION DETAILS	DEPTH  - 0 1 2 3 4 5 6 7 8 10 11 12 13 14 15 16 17 18 19		69	-Asphalt -Sand, fine to coarse grain, brown, occasional pebbles -Cobbles -Cobbles
COMPLETION & BACKFILL  -Blank 2-in I.D.  PVC pipe, 0.3-3 ft  -Screened 2-in I.D.  PVC pipe, 3-13 ft  -Concrete, 0-2 ft  -Bentonite, 2-3 ft  -Clean sand, 3-15 ft	TANK N MONITO		WELL	NO. <u>B-6-R-MV2</u>

GREGG & ASSOCIATES, INC.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
CONSTRUCTION DETAILS	DEPTH  - 0 1 2 3 4 5 10 11 12 13 14	LOG OOGO OOGO OOGO		Asphalt -sand, fine to coarse grain, brown, moist, occasional pebbles and cobbles at 1 ft  -Cobbles
COMPLETION & BACKFILL	- 20 -			

-Blank 2-in I.D.
PVC pipe, 0.3-3 ft
-Screened 2-in I.D.
PVC pipe, 3-13.7 ft
-Concrete. 0-2 ft

-Concrete, 0-2 ft -Bentonite, 2-3 ft -Clean sand, 3-15 ft TANK NO. <u>B-6-R</u> MONITORING WELL NO. <u>B-6-R-MV3</u>

GREGG & ASSOCIATES, INC.

PARAMETER	,	:	SAMPLE I	.6.	
•	:  BACK  GROUND  SAMPLE		B-6-R B1 COMPOSITE	B2	8-6-R NV2 & NV3 COMPOSITE
 Volatile Organics (ug/kg)	!	N.A. :	N.T.	N.T.	N.T.
	1 (0.2	:	1		
		;			
1,1 Dichloroethene	1 (0.1		<b>†</b>		
•	1 (0.5		}		
,	1 <0.4		1		
•	1 <0.2				
, ,		± 2,040			
•	1 <0.4	-,			
Petroleum Hydrocarbon (mg/kg)	) N.T.	N.A.	24.3	N. D.	22.2
Oil & Grease (æg/kg)			23.3	N.D.	21.5
Câm Metals (æg/kg)	}		N.T.	и.Т.	N.T.
	1 <2.5	500	<b>:</b>		
Arsenic	1 12.7	500	<u> </u>		
Barius	1 43.4	10,000	! !		
_	1 (1.0	75			
Cadinium		100			
Chromium (Total)	1 6.3		· !		
•		8,000			
	8.6	250			
• •	1 <2.5				
Hercury	1 (0.1	20			
Molybdenum	1 6.9		, !		
Nickel	1 4.1	2,000	! !		
Selenium	1 <2.5	100	!		
Silver	₹2.5	500	!		
Thallium	1 (2.5	700	· !		
Vanadium	1 12.7	2,400	· !		
Zinc	1 21.4	2,500			
Aluminum (mg/kg)	18.9	N.A.	. н.т.	N.T.	N.T.
	! N.T.	N.A.		N.T.	N.T.
Others	}		N.T.	N.T.	N.T.
рН	8.19	N.A.	1		
Chloride (mg/kg)	I N.T.	N.A.	! !		
Cyanide (mg/kg)	: N.T.	N.A.	! !		
Flouride (mg/kg)	i N.T.	18,000	) 		
Nitrate (mg/kg)	i N.T.	N.A.			
Sulfate (mg/kg)	1 N.T.	N.A.	!		

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

r nig∕kg

#### TANK NUMBER B-6-S

#### FIELD PROGRAM

One boring, B-6-S-Bl, one vapor monitoring well, B-6-S-MVl, and one suction lysimeter, B-6-S-SLl, were drilled/installed to monitor subsurface conditions at waste paint sludge Tank B-6-S.

BORING B-6-S-B1/VAPOR MONITORING WELL B-6-S-MV1

Monitoring Installations - Boring B-6-S-Bl was drilled as indicated on the site map. This tank was not included in the Work Plan, but was sampled in the presence of Mr. Al Novak of the RWQCB, who approved the drilling locations in the field. Upon completion the boring was backfilled to 10 feet and a vapor monitoring well installed.

<u>Sampling Intervals</u> - Soil samples were taken at depths of 10, 16, 30 and 40 feet, as approved in the field by Mr. Novak.

<u>Field Observations</u> - The medium-to-coarse grain size of the sand remained consistent throughout the first 5 feet of the boring. At 5 feet the sand became coarser, and the gravel and cobble fraction decreased. The sand became lighter in color at the same depth. The frequency of cobbles decreased at 5 feet.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The only possible indication of contamination was the slightly reddish color of the sand. There were no detectable vapors emanating from the samples.

#### SUCTION LYSIMETER B-6-S-SL1

Monitoring Installations - Suction Lysimeter B-6-S-SLl was installed as indicated on the site map.

Sampling Intervals - Soil samples were taken at depths of 4 and 9 feet. Soil samples were to have been extracted using a 3-inch modified California ring sampler, however, extremely limited access necessitated the use of a smaller rig with a 4-inch solid stem auger. It was, therefore, not possible to use a downhole sampler, which requires an 8-inch hollow stem auger. The soil samples were taken directly from the auger flights at the surface.

The auger cut samples are subject to volatilization. Further, they may represent soil from just below the surface to 4 and 9 feet due to soil caving onto the auger flights. The hole was drilled to 27 feet then backfilled to 9 feet where the lysimeter was installed.

<u>Field Observations</u> -The medium-to-coarse grain size and brown color of the sand remained consistent throughout the entire 27 feet of the excavation made for the lysimeter. The frequency of cobbles decreased at 14 feet.

There were no indications of contamination.

#### LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - The samples taken from Boring B-6-S-Bl and Suction Lysimeter B-6-S-SLl were analyzed for volatile organics and petroleum hydrocarbons.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-S. Methyl ethyl ketone (MEK), perchloroethylene and toluene were detected in the samples. The concentrations range from a low of 5.6 ug/kg of MEK to a high of 23 ug/kg of perchloroethylene.

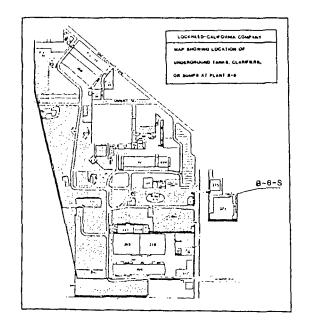
Moderately high levels of petroleum hydrocarbons (149 mg/kg) were also detected. This level is higher than the background level.

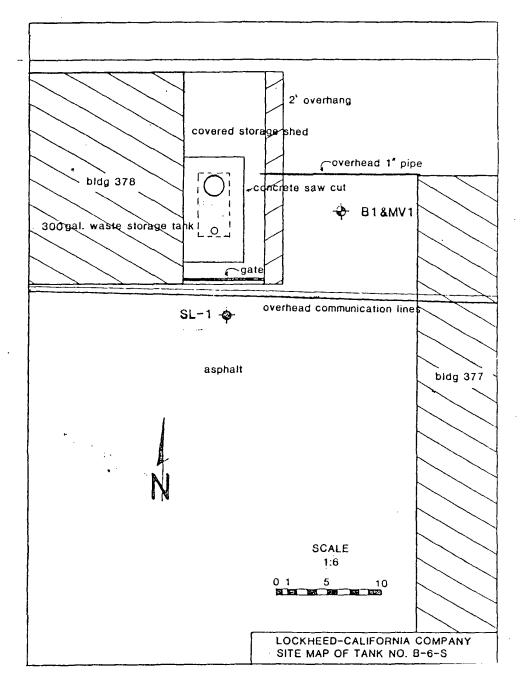
### CONCLUSIONS

The laboratory results show that traces of volatile organics and moderately high levels of petroleum hydrocarbons (149 mg/kg) were detected, suggesting that the tank may be the source of contamination.

#### RECOMMENDATION

Additional subsurface sampling and analysis should be conducted to determine whether the origin of the contamination is from the leakage of the tank and to quantify the extent of contamination.





PERTINENT CONSTRUCTION AND PROGRAM GATA

Tank No.	i	6-a-5
lant No./Near	est blag.	50/81ag. 378 (E 51ae)
Tank:	Location	2801 k. Hollywood Way
	Installation Date	UHA
	Capacity, gal.	50u
	Use/Fracess	Faint snop floor drain
	Contents (past,£AS No.,qate/	mater soluple paint
	(present,CAS No. /	и.ε.κ.
	Construction Materials	Steel
	6ecmetry	Cylinorical
	bepth To Tap	Uhri
	Depth To Invert	iUhk
	Drameter	1   3 ft
	Length (1)	i : 6 ft
	Containment	None
	Corrosive Protection (2;	; Uhr
	Status	: In service
Tank Piping:	: Rueber	; ;
	Туре	:UNR.
	Construction Mat.	i Steri
Site:	Faving Material/Inickness	: Aspnalt/5 in.
	Appearance	i Fair I
	Surface Contamination	, hane
Drilling	Rig Type/Requirements (3)	i iBI mE Auger∙MVI SS Hugel
fragra <b>a</b>		1 1
	Sample Depths	: 
	Vapor Wells/Lysimeters (Mo.:	2
	Sample Depths	
	Completion interval	MY1/6-10 +t   SL1/9 +t
aboratory Pr	ogram (4) No. of Tank Content Samples	i ; 0
	Páradeters	,
	No. of Tank Soil Samples	24Comp.)
	Parameters	l Val.Grg.

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
क्रिस्ट्री त हिस्स्ट	- 0 -	ふくごくご		Asphalt broken chunks of
	- 2 -	D <sub>A</sub> A		concrete 1-12 in. Sand, medium to coarse
	- 4 -			grain, red brown, cobbles to 12 in, rounded
	- 6 -	Q.		cobbles in sand matrix 5 ft color change,
	- 8 - - 10 -	QΩ		lighter,coarse
	- 10 - - 12 <b>-</b>	ь	50	
	- 14 -	0		
	- 16 -	t U	5.0	ocssaional gravel to
a a	- 18 -	£6	50	3 in
0.0	- 20 -	Co		
0	- 22 -	ن		·
	- 24 - - 26 -	Ö		
D <sub>e</sub>	- 28 -	60	·	
0	- 30 -	C O		
	- 32 -	D 00 0	50	
	- 34 -	0 8		
<b>A</b>	- 36 -	ø		
	- 38 - - 40 -	D.	-50-	
COMPLETION & BACKFILL	40 -		30-	
-Blank 2-in I.D.				
PVC pipe, 0.3-6 ft -Screened 2-in I.D. PVC pipe, 6-10 ft -Concrete, 0-4 ft	TAN	IK NO.	B-6	<u>-s</u>
-Bentonite, 4-5 ft -Clean sand, 5-10 ft -Native materials, 10-40 ft	BOF	RING N	O. <u>B-(</u>	6-S-B1

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW	LITHOLOGIC DESCRIPTION
<u> </u>		0		CNIS	
	ESTATE DESCRIPTION OF THE PROPERTY OF THE PROP	- 0 -	いついいい		Asphalt broken chunks of
		- 2 -	SAO		concrete 1-12 in Sand, medium to coarse
		- 4 -			grain, red brown, cobbles to 12 in, rounded
		- 6 -	Q Q		cobbles in sand matrix 5 ft color change,
		- 8 -	80		lighter, coarse
İ		- 10 -	ل ا	50	
		- 12 <b>-</b>			
		- 14 -	0. U		·
		- 16 -	PO	50	-ocssaional gravel to 3 in
	0	- 18 -			
		- 20 -	00		
	0	- 22 -	Ų.		
	) 	- 24 -	Ö V		
	(c.)	- 26 -	ن		
		- 28 -	6		
		- 30 -	D	50	
	۵	- 32 -	Car		
	4	- 34 -	0 8		
	<u>*</u>	- 36 -	0		
		- 38 -	D.		
		- 40 -		-50-	
	COMPLETION & BACKFILL				
	-Blank 2-in I.D. PVC pipe, 0.3-6 ft				
	-Screened 2-in I.D. PVC pipe, 6-10 ft	TANK NO. B-6-S			
	-Concrete, 0-4 ft Bentonite, 4-5 ft				
	-Clean sand, 5-10 ft -Native materials, 10-40 ft	ВО	RING N	0. <u>B</u> -	6-S-B1

	CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
-		- 0 - - 1 - - 2 - - 3 - - 4 - - 5 -		Jar	-Asphalt -Sand, medium to coarse grain, variegated, abundant pebbles & cobbles
		- 7 8 9 10 11 12 13 14 -	0 0 0 0 0 0 0	Jar	
	COMPLETION & BACKFILL  -Suction lysimeter at 9 ft  -Concrete, 0-4 ft  -Bentonite, 4-5 ft  -Clean sand, 5-10 ft	- 15 - - 16 - - 17 - - 18 - - 19 - - 20 -	K NO.	B-6-	·S

SUCTION LYSIMETER NO. B-6-S-SL1

PARAMETER	1			SAMPLE	1.0.			
	:  BACK  BROUND  SAMPLE	TTLC	1 1	 B-6-S B1 (10-16 ft.) COMPOSITE	B-6-S	B-6-S SL1 0-5 ft.	B-6-S SL1 0-9 ft.	B-6-S SL1 COMPOSITE
Volatile Organics (ug/kg)	!	N.A.			N.D.		,	
Benzene	1 <0.2		1	N.D.		N.D.	N.D.	N.D.
Carbon Disulfide	1		}	N.D.		N.D.	N.D.	N.D.
1,1 Dichloroethene	1 (0.1		;	N.D.		N.D.	N.D.	N.D.
Methylene Chloride	1 (0.5		1	N.D.		N.D.	N.D.	N.D.
Perchloroethylene	1 (0.4		1	N.D.		22.9	19.6	21.3
•	1 (0.2		}	N.D.		N.D.	N.D.	N.D.
• •		<b>#</b> 2,040	1	N.O.		N.D.	N.D.	N.D.
	1 (0.1	-	1	N.D.		16.4	N.D.	8.2
Toluene	1 (0.4		;	N.D.		, N.D.	N.D.	N.D.
Nethyl Ethyl Ketone	1		ì	5.6		,		
Petroleum Hydrocarbon (mg/kg)	¦ м.Т.	N.A.	;	N.T.	N.T.	N.T.	N.T.	149
Oil & Grease (mg/kg)	1 (1.0	N.A.	;	N.T.	N.T.	N.T.	N.T.	N.T.
CAM Metals (mg/kg)	}		}	N.T.	N.T.	N.T.	N.T.	N.T.
Antimony	1 (2.5	500	1					
Arsenic	1 12.7	500	:					
Barium .	1 43.4	10,000	ì					
Beryllium	1 (1.0	75	1					
Cadmium	: <0.5	100	1		•			
Chromium (Total)	1 6.3	2,500	ì					
Cobalt	1 4.3	8,000	i					
Copper	ŧ 8.6	250	Į.					
Lead	1 (2.5	1,000	;					
Mercury .	1 (0.1	20	}					
Rolybdenum	6.9	3,500	1					
Nickel	4.1	2,000	;					
Selenium	1 <2.5	100	1					
Silver	1 <2.5	500	1					
Thallium	1 <2.5	700	i					
Vanadiu≞	1 12.7	2,400	i i					
linc	1 21.4	2,500						
Alumimum (mg/kg)	1 18.9	N.A.	1	N.T.	N.T.	N.T.	N.T.	N.T.
5odium (mg/kg)	l N.T.	N.A.	¦ 	N.T.	N.T.			
Úthers	1		1	N.T.	N. I.	N.T.	н.Т.	N.T.
ρН	1 8.19	N.A.	ì					
Chloride (mg/kg)	1. N.T.	N.A.	1					
Cyanide (mg/kg)	l N.T.	N.A.	i					
Flouride (ag/kg)	1 N.T.	18,000	i					
Nitrate (mg/kg)	1 N.T.	N.A.	1					
Sulfate (mg/kg)	i N.T.	N.A.	;					

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TILC - TOTAL THRESHOLD LIMIT CONCENTRATION

### FIELD PROGRAM

One boring, B-6-T-Bl, and one vapor monitoring well, B-6-T-MVl, were installed to monitor subsurface conditions at flight line blowdown Sump B-6-T.

#### BORING B-6-T-B1

Monitoring Installations - Boring B-6-T-Bl was drilled as indicated on the site map. The sump was not included in the original inventory. It was, however, sampled in a manner consistent with similar Plant B-6 sumps. Mr. Al Novak of the RWQCB was notified of this program addition.

Sampling Intervals - Soil samples were taken from Boring B-6-T-Bl at depths of 5, 11, 16, 28 and 35 feet, as approved in the Work Plan. A 40-foot sample was attempted but lost during retrieval due to a broken sand trap.

Field Observations - The medium to coarse grain size and variegated light brown color of the sand remained consistent throughout the first 19 feet of the boring. At 19 feet the sand became finer, and the gravel and cobble fraction decreased. The frequency of cobbles decreased at 19 feet, increased again at 25 feet, and finally faded. From 19 to 35 feet the color changed slightly from the light brown to brown, which corresponds with the general grain size decrease at the same depth.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. There was a very slight odor at 5 feet but it faded quickly and disappeared completely by 8 feet.

## VAPOR MONITORING WELL B-6-T-MV1

Monitoring Installations - Vapor Monitoring Well B-6-T-MVl was installed as indicated on the site map.

<u>Sampling Intervals</u> - Soil samples were taken at a depth of 10 feet.

Field Observations - The medium to coarse grain size and light brown color of the sand remained consistent throughout the entire well. The frequency of cobbles increased at 9 feet and continued to 10 feet.

There were no indications of contamination.

# TANK B-6-T (continued)

## LABORATORY PROGRAM AND ANALYSIS

<u>Laboratory Program</u> - A composite of the samples was analyzed for volatile organics.

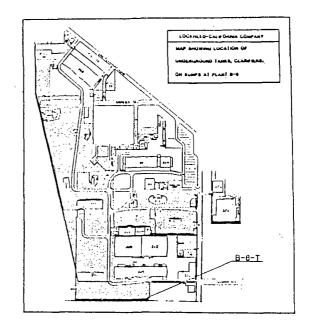
<u>Laboratory Analysis</u> - The pertinent laboratory analysis results are summarized in Table B-6-T. All volatile organics analyzed were below detection limits.

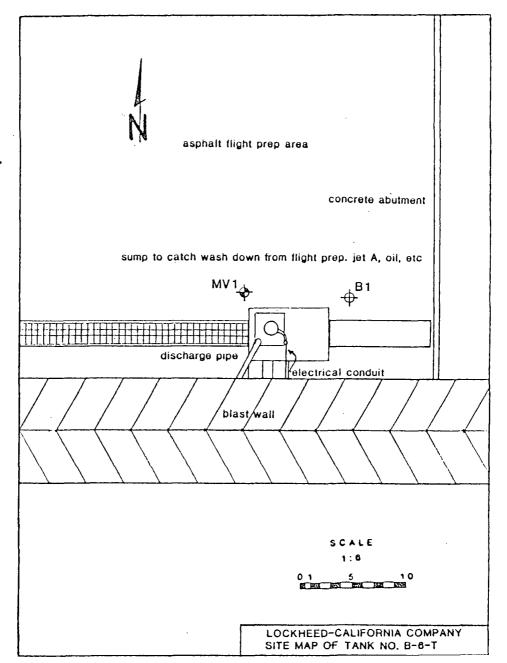
## CONCLUSIONS

Both field and laboratory analysis results show that the suspected contaminants were below detection limits. It is concluded that the tank is not leaking.

## RECOMMENDATION

Proceed with quarterly monitoring of the wells.





PERTINENT CONSTRUCTION AND PROGRAM DATA

t bldg.  Location  installation Date  Lapacity, gal.  Use/Frocess  Contents ipast,CAS No.,date/	Auto Sump to caten washdown from flight preparation
installation Date  Lapacity, gal.  Use/Frocess  Contents ipast,CAS No.,date/	2801 M. Holiymood may  UHK  400  Sump to catch washdown from flight preparation  Jet-A Oil washdown
installation Date  Lapacity, gal.  Userfrocess  Contents (past,CAS No.,date)	URN. 400 Sump to catte mashdown from flight preparation Jet-A Oil mashdown
Capacity, gal. Use/Frocess Contents ipast,CAS No.,date)	Aug to catch washdown from flight preparation Jet-A Oil washdown
Capacity, gal. Use/Frocess Contents ipast,CAS No.,date)	400 Sump to catch washdown from flight preparation Jet-A Oil washdown
Contents ipast,CAS No.,date)	sump to catch washdown from flight preparation Jet-A Oil washdown
**************	Jet-A Oil washdown
(present,Ená No.)	; ; ; Jet-A Oli mashucmn
(present,Lma Ho.)	i Jet-A Dii washucwo ! :
	•
Construction Materials	Concrete
	Square
	·
bepth to Top	; UNK
•	: UNN.
brameter	: 3 ft
Length (1)	;;
Containment	. Hone
Carrosive Protection (2)	i Hone
Status	i In service
Number	; ;
Туре	i Discharge
Construction Mat.	; ; { Steel
Faving Material/Iniciness	: Aspnalt/5 in
Appearatice	l ; fair
	<u>.</u> !
	i
Rig Type/Requirements (3)	i H.S. Auger
Barings (No.)	1
Sample Depths	91/5,11,16,26,35 ft
Vapor Wells/Lysimeters (No.)	
	!
	; !
Completion Interval	. #V1/5-10 rt
	• •
· · · · · · · · · · · · · · · · · · ·	
Parameters	1
No. of Tank Soil Samples	: 3:Comp.,
	; :hydrocaroons,Vol.Org.
	Depth To Top  Depth To Invert  Diameter  Length (1)  Containment  Corrosive Protection 12/  Status  Number  Type  Construction Mat.  Faving Material/Inichness  Appearance  Surface Contamination  And Type/Requirements (3/  Borings (No.)  Sample Depths  Completion Interval  an (4)  No. of Tank Content Samples  Parameters  No. of Tank Soil Samples

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
CONSTRUCTION DETAILS	- 0 2 4 6 8 10 12 14 16 18 20 -	LOG (1/1/2000) 000000000000000000000000000000000	-24 -30	-Asphalt -Sand, medium to coarse grain, variegated light brown, occasional cobbles & gravel w/some odor (not detectable w/HNU) -Cobbles -Cobbles
	- 22 24 26 28 30 32 34 36 38 40 -		23 -50	Sand, medium to coarse grain, brown, some gravel, moist, soft abundant cobbles at 25 ft  -Cobbles diminished
COMPLETION & BACKFILL  -Asphalt, 0-0.5 ft -Concrete, 1-5 ft -Bentonite, none -Clean sand, 5-35 ft		IK NO.		6-T-B1

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION
	- 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 -		10	-Asphalt -Sand, medium to coarse grain, variegated, small cobbles 0.25-5 in  -Cobbles become more abundant
COMPLETION & BACKFILL			ł	o6tmvl
-Blank 2-in I.D. PVC pipe, 0.3-5 ft -Screened 2-in I.D. PVC pipe, 5-10 ft -Concrete, 0-4 ft -Bentonite, 4-5 ft -Clean sand, 5-10 ft		NO. <u>B</u> - ORING	WELL	NO.B-6-T-MV1  GREGG & ASSOCIATES, INC.

PARAMETER	1		SAMPLE I.D.
	: :BACK	TTLC	: B-6-T
	GROUND		↓ B1
	ISAMPLE		COMPOSITE
 Volatile Organics (ug/kg)	;	N.a.	N.D.
Benzene	1 (0.2		ŀ
Carbon Disulfide	} e		1
1,1 Dichloroethene	(0.1		1
Methylene Chloride	₹ (0.5		1
Ferchloroethylene	1 (Ú.4		i
1,1,1 Trichlorethane	1 <0.2		1
Trichloroethylene	1 (0.3	± 2,040	1
Toluene	1 ⟨0.4		1
Petroleum Hydrocarbon (mg/kg)	1 N.T.	N.A.	: N.I.
Oil & Grease (mg/kg)	1 <1.0	N.A.	1 N.T.
CAN Metals (mg/kg)			1 N.T.
Antimony	1 <2.5	500	}
Arsenic	12.7	500	1
Barium	1 43.4	10,000	1
Beryllium	1 (1.0	75	1
Cadaius	1 (0.5	100	1
Chromium (Total)	6.3	2,500	1
Cobalt	1 4.3	8,000	1
Copper	8.6	250	t
Lead	1 (2.5	1,000	1
Mercury	1 (0.1	26	1
Molybdenum	6.9	3,500	1
Nickel	4.1	2,000	1
Seleniua	1 (2.5	100	1
Silver	1 (2.5	500	1
Thallium	1 (2.5	700	ŀ
Vanadiu <b>s</b>	1 12.7	2,400	i
Zinc	1 21.4	2,500	
Alumimum (mg/kg)	18.9	N.A.	1 N.T.
Sodium (mg/kg)	! N.T.	N.A.	N.T.
Others	i		I N.T.
рН	8.19	N.A.	!
Chloriae (mg/kg)	N.T.	N.A.	1
Cyanide (mg/kg)	ŀ ₩.T.	N.A.	:
Flouride (mg/kg)	N.T.	18,000	1
Nitrate (mg/kg)	i N.T.	N.A.	<u>;</u>
Sulfate (mg/kg)	I N.T.	N.A.	i i

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

e nag/kg

### FIELD PROGRAM

One boring, B-6-U-Bl, and one vapor monitoring well, B-6-U-MVl, were drilled/installed to monitor subsurface conditions at waste oil Tank B-6-U.

BORING B-6-U-B1/VAPOR MONITORING WELL B-6-U-MV1

Monitoring Installations - Boring B-6-U-Bl was drilled as indicated on the site map. Upon completion, the boring was backfilled to 12 feet and a vapor monitoring well was installed. The tank was not included in the original work plan but was sampled under the direction of Al Mr. Novak of the RWQCB, who was on site during the drilling.

Sampling Intervals - Soil samples were taken from Boring B-6-U-Bl at depths of 5, 10, 20, 30 and 40 feet, as approved by Mr.Novak.

<u>Field Observations</u> - The medium to coarse grain size of the sand remained consistent throughout the entire boring. The frequency of cobbles increased at 9 feet and continued intermittently throughout the boring. The soil was black in color throughout the first 5 feet. At 5 feet the color changed drastically from black to variegated light brown.

Indications of possible contamination were based upon observations of odor, color, moisture content and consistency of the soils. The soil from the surface to 5 feet had a strong odor indicating possible contamination.

The possibility of contamination of the soil was sufficient to warrant placing the auger cuttings in two 55-gallon drums approved for storage of hazardous waste.

#### LABORATORY PROGRAM AND ANALYSIS

Laboratory Program - Based on field observations indicating the potential presence of contaminants in the soil samples from Boring B-6-U-1, individual depth samples were analyzed for organics and a composite sample was analyzed for CAM metals in the laboratory.

Laboratory Analysis - The pertinent laboratory analysis results are summarized in Table B-6-U. A total of four volatile organics was detected in the samples, suggesting that the soils had been contaminated. The concentration levels range from a low of 3 ug/kg of trichloroethene to a high of 661 ug/kg of tetrachloroethene. The highest concentrations were registered with the shallowest sample (5 feet).

## TANK B-6-U (continued)

The levels of metals detected range from a low of 0.28 mg/kg of mercury to a high of 53 mg/kg of barium. These levels are below the Total Threshold Limit Concentration (TTLC) limits.

#### CONCLUSIONS

The laboratory results show moderate levels of four volatile organics and a trace of mercury in the soil samples, indicating that the soils have been contaminated and suggesting that the tank could be the source of contamination.

## RECOMMENDATION

Additional subsurface sampling and analysis should be conducted to further determine whether the origin of the contamination is from the leakage of the tank and to quantify the extent of contamination.

## TANK NUMBER B-6-U supplement

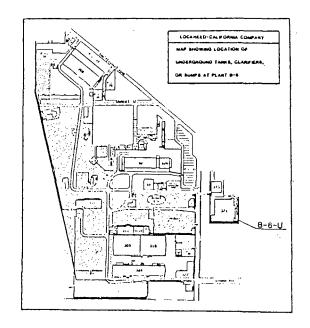
#### ADDITIONAL INVESTIGATIONS

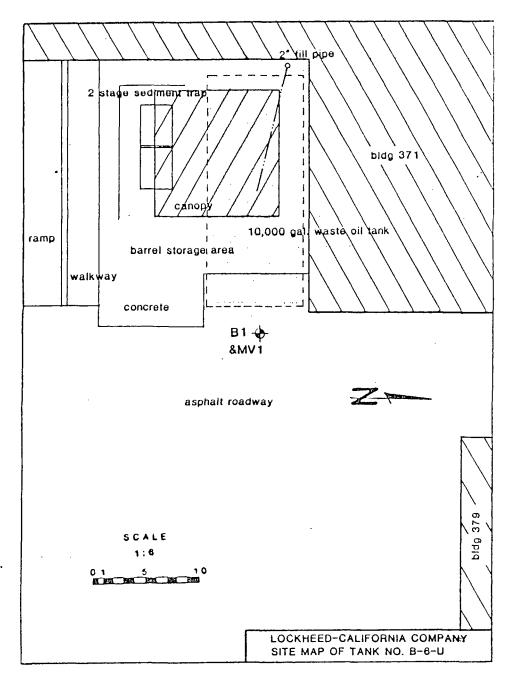
The analysis of soil samples collected near Tank B-6-U during the initial drilling indicated moderate levels of several volatile organic substances. Although Tank B-6-U currently contains waste oil, it may have contained similar substances such as those found Being the obvious potential source in the soil in the past. the contamination, Tank B-6-U was hydrostatically tested by Horner Creative Metals, Inc. of Kawkawlin, Michigan on May 31, The test is a hydrostatic evaluation and can detect leaks in tanks and related piping systems with a level of detection of ± 0.05 gallons per hour. This is the approved level of detection according to National Fire Prevention Authority (N.F.P.A.) #329. The results of the test (Appendix C) indicated that the tank "certified tight" as is, not leaking within the acceptable level of detection. Also supporting the conclusion that the tank does not leak is the fact that no oil has been added to the tank in at least one year (reported by Lockheed personnel) and the remains completely full.

It is therefore concluded that the contamination present in the nearby soil did not originate from leakage of Tank B-6-U. It is not unlikely that soil contamination may have originated with previous non-CALAC occupants. However, a possible source may be leakage from 55-gallon drums stored in the area.

### FURTHER RECOMMENDATIONS

Proceed with quarterly monitoring of vapor monitoring well.





#### PERTINENT CONSTRUCTION AND PROGRAM DATA

Tank No.	)	F-9-A
lant No./Near	est Blog.	bb/ Bldg. 371 (SE Corner
Tank:	Location	2801 N. Hollywood bay
	instaliation Date	UN.
	Capacity, gal.	10,000
		,
	Use/Process	Storage of waste oil
	Contents ipast,CA5 No.,date)	Waste oil od332395
	:	¦ <b>∔</b>
		<b>.</b>
	(present,CAS No.)	Waste oil ob332305
	*******************************	
	Construction Materials	C Uhr.
	Geometry	Unt.
	Depth To Top	in.
	Depth To Invert	uki.
	Diameter	;
	Length (1)	i
	Containment	i hone
	Corrosive Protection (2)	l None
		1
<b></b>	Status	I In service
Tank Piping:	Number	i UNF.
	Туре	: UNK
	Construction Mat.	Steel
Site:	Paving Material/Inickness	: Cancrete/à in
	Appearance	i űsod
		; ;
	Surface Contamination	i kone i
Drilling.	Kig Type/hequirements (3)	:   H.S. Huger
Frogram	Borings (No.)	}
	-	
	samtte nehtus	1 01/0,10,20,30,49
	Vapor Wells/Lysimeters (No.i	1
	Sample Depths	: MYL/REF. TO BE
	Completion Interval	: 
Laboratory Pr		1
	No. of Tank Content Samples	
	Parameters	1
	No. of Tank Soul Samples	11(500)
		.
	Parameters	Vol.Org.,can

lank No.		. 8-5-0
iant No./heare		50/ 31ag. 77; 18E Corner
Tank:	Location	Loul A. Hostywood Way
	Installation Date	UNK
	Capacity, gai.	10,596
	Use/Process	Storage in waste oi.
	;	•
	Contents (past,CHS No.,date)	
	ipresent, the No. /	:
	·	;
	Construction Materials	) 486
	5+0±etry	Table
		· · · · · · · · · · · · · · · · · · ·
	bepth to hop	************************************
		i uhr
	Diameter .	; ukr
	Length (1)	i bak
	Containment	kane
	Currosive Protection (2)	hone -
	Status	i în service
Tank Piping:		: UNK
	Type	Line.
	**	; ;
	Construction Mat.	Steel
ŝite:	Faving material/Thickness	Concrete/a in
	Appearance	i Saoc
	2.2	· }
		i kane
Orilling	nig Typernequirements (3)	i n.S. Auger; I integrity test
frogra <b>±</b>		
	Borings (No.)	1
	Sample Depths	: : 6175,10,30,50,40 :
		:
	Vapor Welis/Lystaeters (No.)	1
	Sample Depths	1
		• •
	Completion Interval	
		:
Laboratory fro	gram (4)	i
	No. of Tank Content Samples	
	Parameters	:
	No. or fank Sour Sampres	
	i al detter 5	t Val. úrg. "CAM

CONSTRUCTION DETAILS	DEPTH	LOG	BLOW CNTS	LITHOLOGIC DESCRIPTION	
	- 0 - - 2 -	スケンペン		-Asphalt -Sand, medium to coarse grain, black, strong	
	4 -	٥ <sub>6</sub>	-27 —	petroliferous odor, changing to dark brown, red @ 2 ft,	
	- 6 -	00		occasional cobbles at 5 ft,Sand,medium to	
	- 8 -	0000		coarse grain, variegated Cobbles	
	- 10 - - 12 -	000	43	·	
	- 14 -				
	- 16 -				
	- 18 -		:		
š a	- 20 -		-53	Sand, medium to coarse	
0	- 22 -			grain,brown,variegated petroliferous odor	
	- 24 -			continues to 30 ft & fades to slight	
0.	- 26 -	•		some pea gravel & coarse	
9	- 28 -		<b>.</b>	sand	
	- 30 - - 32 -	εŏ	-50 <del></del>		
5	- 34 -				
4	- 36 -	U Q			
	- 38 -			-Sand, fine to medium grain, occasional cobble	
	- 40 -	8.0	-15	slight petroleum odor brown	
COMPLETION & BACKFILL					
-Blank 2-in I.D. PVC pipe, 0.3-3 ft -Screened 2-in I.D. PVC pipe, 3-12 ft -Concrete, 0-2 ft Bentonite, 2-3 ft	TANK NO. <u>B-6-U</u>				
Clean sand, 3-12 ft -Native 12-40 ft	ВО	RING N	o. <u>B</u> -	-6-U-B1	

PARAMETER	1	!	SAMPLE	1.0.				
	I IBACK IGROUND ISAMPLE	TTLC	8-6-U 81 5 ft.	8-6-U B1 10 ft.	8-6-d Bi 20 ft.	B-6-U Bl 30 ft.	B-4-U B1 40 ft.	5-4-U B1 COMPOSITE
Volatile Organics (ug/kg)	<u> </u>	N.A.		н.о.		N.D.		N.T.
Benzene	1 (0.2		N.D.		N.D.		N.D.	
Carbon Disulfide	4		N.D.		N.D.		N.D.	/
1,1 Dichloroethene	1 (0.1		N.D.		N.D.		N.D.	
Methylene Chloride	1 <0.5		N.D.		N.Ú.		N.D.	
Perchloroethylene	1 <0.4		661		N.D.		14.4	
1,1,1 Trichlorethane	1 (0.2		4.3		N.D.		N.O.	
Trichloroethylene	1 <0.3	± 2,040	2.9		N.G.		N.D.	
Chlorofora	1 ⟨0.1	·	66.3		11.3		N.D.	
Toluene	1 <0.4		i N.D.		N.D.		N.O.	
Petroleum Hydrocarbon (mg/kg)	: N.I.	N.A.	! N.T.	N. T.	N.T.	N.T.	N.T.	N. T.
Oil & Grease (mg/kg)	(1.0	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
CAM Metals (mg/kg)	1		l N.T.	N.T.	N.T.	N.T.	N.T.	
Antimony	1 (2.5	500	i L					(2.5
Arsenic	1 12.7	500	1					16.1
Barium	1 43.4	10,000	ť					53.1
Beryllium	1 (1.0	75	i.					(1.0
Cadeius	1 (0.5	100	i					(0.5
Chromium (Total)	6.3	2,500	;					7.9
Cobalt	1 4.3	8,000	1					4.8
Copper	8.6	250						12.9
Lead	1 (2.5	1,000	1 1					4.5
Mercury	(0.1	20	ľ					0.278
Molybdenum	1 6.9	3,500	:					8.7
Nickel	4.1	2,000	<u> </u>					4.5
Selenium	1 (2.5	100	:					(2.5
Silver	1 (2.5	500	i 1					⟨2.5
Thallium	1 (2.5	700	i I					⟨2.5
Vanadium	1 12.7	2,400						17.2
Zinc	1 21.4	2,500	i i					28.7
Alusisus (sg/kg)	18.9	N.A.	. N.T.	N.T.	N.T.	 н. Т.	N.T.	N. T.
Sodium (mg/kg)	: N.T.	N.A.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Others	:		: N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
Нα	8.19	N.A.	<b>!</b>					
Chloride (mg/kg)	: N.T.	N.A.	i					
Cyanide (æg/kg)	1 N.T.	N.A.	i L					
Flouride (mg/kg)	1 N.T.	18,000	i i					
Nitrate (mg/kg)	1 N.T.	Ń.A.	i 1					
Sulfate (mg/kg)	1 N.T.	N.A.	1					

N.A. - NOT AVAILABLE

N.D. - NOT DETECTED

N.T. - NOT TESTED

TTLC - TOTAL THRESHOLD LIMIT CONCENTRATION

<sup>∗</sup> nag/kg

# APPENDIX C LABORATORY REPORTS



Corporate Offices: 225 W. 30th Street: National City, CA 92050 619 477-4173

I.D. #01-001429

September 24, 1984

Grego & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Dean Gregg

Project No.: 84-106-002 Project Name: Lockheed

On August 31, 1984, Analytical Technologies, Inc. received nine (9) soil samples for analysis of petroleum hydrocarbons, and one (1) fuel sample for component identification. The soil samples were extracted with freon, the extract then analyzed by IR, (EPA Method 418.1). The fuel sample was screened on a Finnigan OWA GC/MS and found to be a mixture of gasoline and diesel.

Attached are the test results, GC/MS printouts of the gasoline standard, and the fuel mixture.

Mikayo Langhofer Technical Associate Reviewed by

Inorganic Supervisor

Attachments

Note: Samples from this project will be disposed of in 30 days from the date of this report, unless we are informed otherwise.

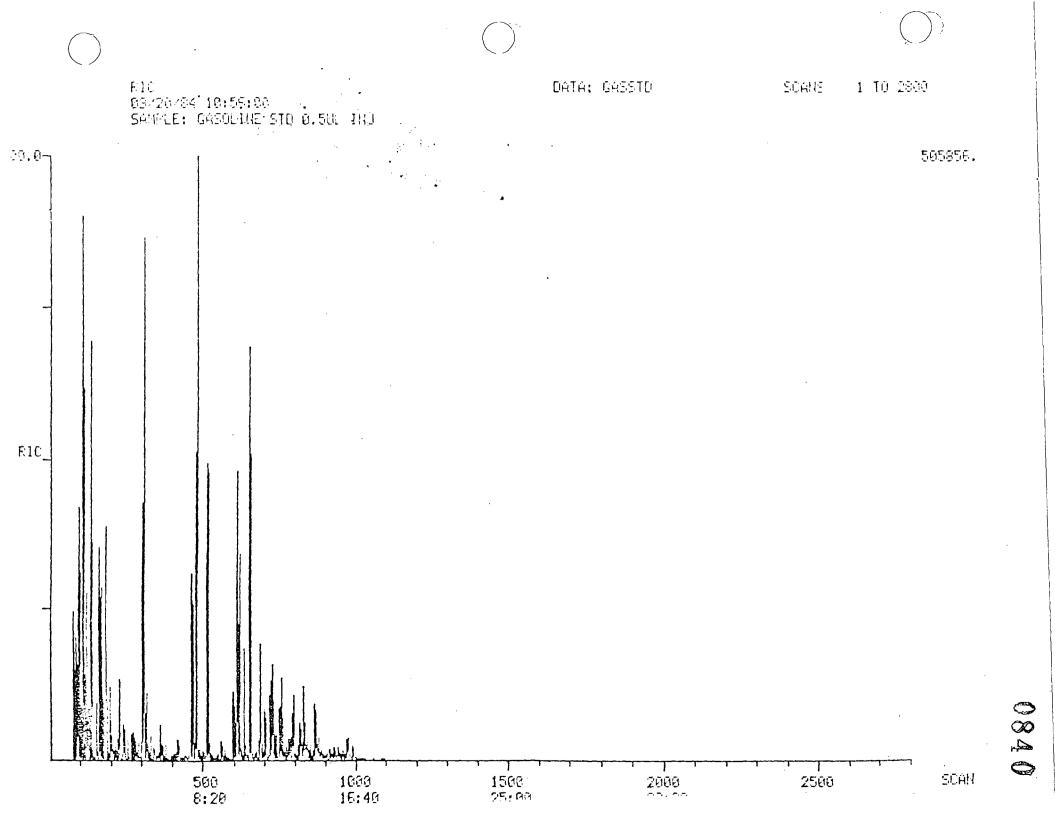
### ANALYTICAL TECHNOLOGIES, INC.

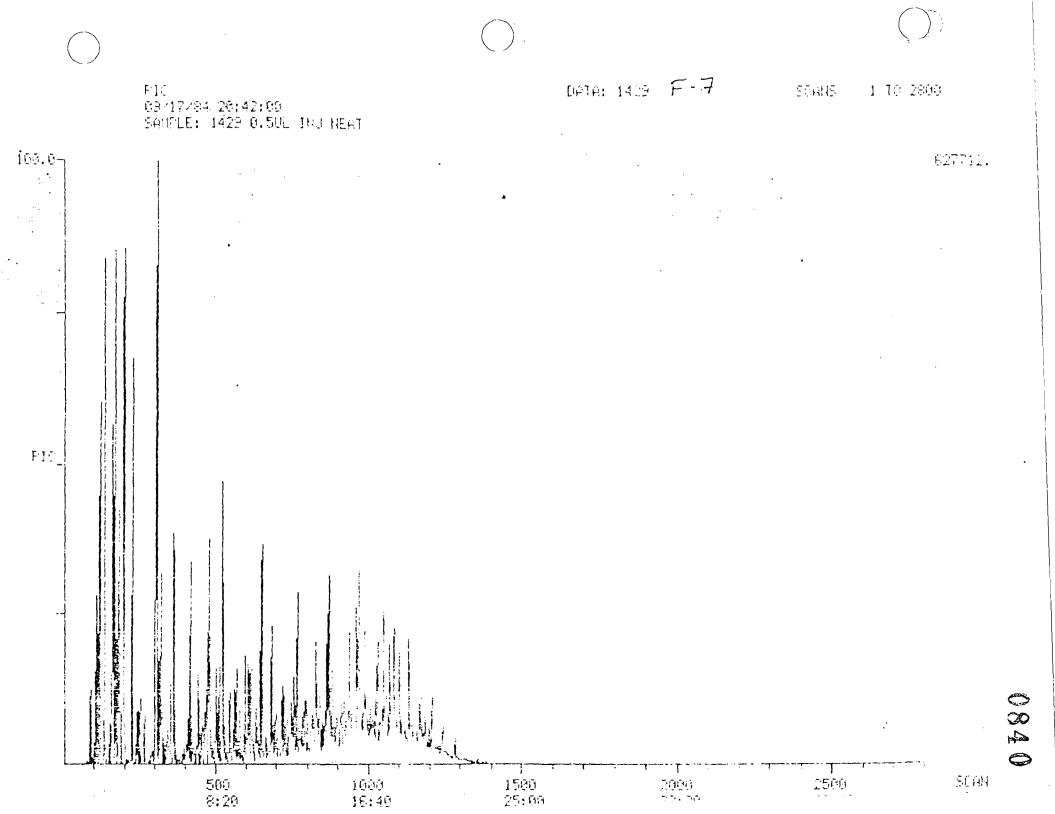
### DATA SHEET

Gregg & Associates

Received: 8/31/84 Reported: 9/24/84

SAMPLE	PETROLEUM HYDROCARBONS (mg/Kg)
B6-F-2-MV2 8/27	<2.0
B6-F-28-MV1 8/29	15.6
B6-F-30-MV1 8/29 B6-F-30-MV3 8/30	<2.0
B6-F-30-MV2 8/30	<2.0
B6-F-28-MV2 8/30	<2.0
B6-F-2-MV1 8/27	<2.0 <2.0
B6-F-4-MV1 8/28	<2.0
B6-F-6/F-7-MV1 8/29	20.8







Corporate Offices 225 W 30th Street National City, CA 92050 619 477-4173

I.D. 01-001448

RECEIVED DEC 1 8 1984

October 15, 1984

Gregg & Associates 18351 Beach Blvd. Huntington Beach, CA 92647

Attention: Dean Gregg

Re: Lockheed Project; #84-106-002

On September 7, 1984 Analytical Technologies, Inc. received the first shipment of samples collected from the Lockheed project site. The shipment contained a total of thirty-seven (37) soil samples. Described below is the disposition of each sample.

- 1) These samples were analyzed for petroleum hydrocarbons (EPA Method 418.1).
  B6-F26-MV1 composited with B6-F26-MV2
  B6-F3-MV1 composited with B6-F3-MV2
  B6-F31-MV1 13-14'
- 2) These samples were analyzed for fuels using GC/FID / volatile organics by GC/MS (EPA Method 8240).

  B6-Q-B1 5' B6-Q-B1 40'
  B6-Q-B1 10' B6-N-B1 9-10'
  B6-Q-B1 15' B6-N-B1 14-15'
  B6-Q-B1 23' B6-N-B1 24' composited with B6-Q-B1 32' B6-N-B1 39'
- 3) These samples were analyzed for pH, metals, anions, cyanide and petroleum hydrocarbons. B6-K-B1 3-4' B6-K-MV1 8-9'

B6-K-B1 9-10' B6-K-B1 14-15' B6-K-B1 25' B6-K-B1 39-40'

B6-N-B1

B6-N-B1

4) These are duplicate samples, which have been archived.

```
B6-Q-B1 3-4'
                              B6-N-B1 39'
          B6-Q-B1 5'
2 of
                              B6-K-B1
                                       9-10'
2 of
          B6-Q-B1 10'
                              B6-K-B1
                                       14-15'
2 of
          B6-Q-B1
                  15'
                              B6-K-B1 25'
2 of
          B6-Q-B1 23'
          B6-Q-B1
                 32'
          B6-Q-B1
                  40'
          B6-N-E1
                   9-10'
```

14-15'

24 1



I.D. 01-001448 Gregg & Associates Page 2

All analyses were completed in accordance with EPA methods or equivalent. If you have any questions, please call.

Cardyn A. Sites
Data Manager

Reviewed by

Laboratory Supervisor

CAS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

#### Fuel Analyses using GC

Gregg & Associates Lockheed Project

Received: 9-7-84 Analyzed: 9-28-84

· Sample I.D.	Stoddard Solvent (mg/kg)	Diesel Fuel (mg/kg)
-B6-Q-B1 @ 5'	<6	<20
86-Q-81 @ 10'	<6	<20
B6-Q-B1 0 15'	<6	<20
B6-Q-B1 @ 23'	<ô	<20
B6-Q-B1 @ 32'	<6	<20
B6-Q-B1 @ 40'	<6	<20
86-N-81 @ 14-15'	<6	<20
Duplicate B6-N-B1 @ 14-1	5' <6	<20

Spike Recovery	Found	Expected	% Recovery
B6-N-E1 @ 14-15'	225.4 ppm	250.4 ppm	90%

#### DATA SUMMARY

Gregg & Associates Lockheed Project

B6-Q-B1 @ 40'

5.20

Received: 9-7-84 Analyzed: 9-17 to 19-84

			•					
Sample I.D.	pH (units)	Chloride (mg/kg)	Fluoride (mg/kg)	Nitrate (mg/kg)	Sulfate (mg/kg)	Aluminum (mg/kg)	Chromium (mg/kg)	Cyanide (mg/kg)
B5-K-E1 3-4'	7.84	3.5	<0.5	<2	13.9	8,900	8.0	NR
B6-K-B1 9-10'	4.94	2.5	<0.5	<2	6.7	6,410	3.5	<2
B6-K-B1 14-15'	7.01	NR	<0.5	NR	NR	5,430	4.0	<2
B6-K-B1.25'	5.61	2.3	<0.5	NR	21.2	9,390	8.1	<2
B6-K-B1 39-40'	6.54	1.6	<0.5	<2	6.7	5,910	4.5	<2
B6-K-MV1 8-9'	<b>6.</b> 59	NR	<0.5	NR	NR NR	6,550	3.6	NR
P6 0 D3 0 T1	F : 00				· ·			
B6-Q-B1 @ 5'	5.82	•		•				
B6-Q-B1 @ 10'	5.47							
B6-Q-B1 @ 15'	7.14							
B6-Q-B1 @ 23'	6.80							
B6-Q-B1 @ 32'	5.63							



(L]LI:ī	Grego & Associates
ATI #	01-001448

### QUALITY CONTROL DATA

DUPLICATES

MATRIX SPIKES

1	<del></del>		PUPLICAL				PIATRIX	JI IKLS	
	Parameter	Sample I.D.	lst Result	2nd Result	R.P.D.	Sample I.D.	Result	True	% Recovery
	Hq	B6-K-B1 (39-40')	6.51	6.56	.007		•		•
	Chromium	B6-K-B1 (3-4')	10.0	7.7	28.4	B6-K-B1 (3-4')	14.0	15.0	93.3
	Aluminum	B6-K-B1 (3-4')	9940	<b>7</b> 870	23.2	B6-K-B1 (3-4')	9280	9460	98.1
	Cyanide					B6-K-B1 (39-40')	43 ug	46 ug	93.5
	Chloride	B6-K-B1 (39-40')	1.6	-1.7		other	0.86	0.85	101
	Sulfate	B6-K-B1	6.4	7.0		other	9.84	9.15	107
	i		ļ						
١					!				
		i i				11	1		l

Client: Gregg & Associates	Sample I.D.: <u>86-Q-81 @ 5'</u>
Sample Matrix: Soil	Date Collected: 9-6-84
Method No.: EPA 8240	Date Received by Lab: 9-7-84
Direct Sparge	Date Analyzed: 9-12-84

	, ,	<u> </u>	
ug/kg		ug/kg	
< .63	Bromomethane	37.3	Benzene
< .63	Chloromethane	< .75	Chlorobenzene
< .28	Bromodichloromethane	48.5	Toluene
< .39	Dibromochloromethane	< .90	Ethylbenzene
< .35	Methylene Chloride	< .63	Acrolein
< .59	Bromoform .	< .63	Acrylonitrile
< .20	_ Chloroform	<1.3	Methyl Ethyl Ketone
< .35	Carbon Tetrachloride	<1.3	Acetone
< .63	Irichlorofluoromethane	30.0	Carbon Disulfide
< .63	Chloroethane		- <del></del>
< .35	1,1-Dichloroethane		
. < . 35	1,2-Dichloroethane		
24.0	l,1,1-Trichloroethane		
< .63	1,1,2-Trichloroethane		
< .86	1,1,2,2-Tetrachloroethane		
< .63	Vinyl Chloride		
16.5	1,1-Dichloroethene		
< .20	Trans-1,2-Dichloroethene		:
37.0	Trichloroethene		

Tetrachloroethene

1,2-Dichloropropane

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

34.3 < .63

< .75 < .63

Client: Gregg & Associares	Sample I.D.: <u>86-Q-81 @ 10'</u>
Sample Matrix: Soil	Date Collected: 9-6-84
Method No.: EPA 8240	Date Received by Lab: 9-7-84
. Direct Sparge	Date Analyzed: 9-12-84

•		i	
ug/kg		uq/kg	
< .63	Bromomethane	< .55	Benzene
< .63	Chloromethane	< . 75	Chlorobenzene
< .28	Bromodichloromethane	< .75	Toluene
· < .39	Dibromochloromethane	< .90	Ethylbenzene
< .35	Methylene Chloride	< .63	Acrolein
. < .59	Bromoform	< .63	Acrylonitrile
·     < .20	Chloroform	<1.3	 Methyl Ethyl Ketone
< .35	Carbon Tetrachloride	<1.3	Acetone
< .63	Trichlorofluoromethane		
63	Chloroethane		
< .35	1,1-Dichloroethane		
< .35	1,2-Dichloroethane		
< .48	_ `l,l,l-Trichloroethane		
< .63	l,1,2-Trichloroethane		
	_ 1,1,2,2-Tetrachloroethane		
< .63	Vinyl Chloride		
< .35	l,l-Dichloroethene		
< .20	Trans-1,2-Dichloroethene		•
< .24	Trichloroethene		,
< .51	Tetrachloroethene		
< .63	2-Chloroethylvinylether		
< .75	_ 1,2-Dichloropropane		
· < .63	CIS - 1,3-Dichloropropene		

Trans-1,3-Dichloropropene

Client: Cr	egg & Associates	Sample I.D.: <u>B6-Q-B1 @ 15'</u>
Sample Matrix	:Soil	Date Collected: 9-6-84
Method No.:	EPA 8240	Date Received by Lab: 9-7-84
	Direct Sparge	Date Analyzed: 9-12-84

ug/kg		ug/kg	
< .63	Bromomethane	< .55	Benzene
< .63	Chloromethane	< .75	Chlorobenzene
< .28	Bromodichloromethane	< .75	Toluene
< .39	Dibromochloromethane	< .90	 Ethylbenzene
< .35	Methylene Chloride	< .63	Acrolein
< .59	Bromo form	< .63	Acrylonitrile
< .20	Ĉh loroforni	<1.3	Methyl Ethyl Ketone
< .35	Carbon Tetrachloride	<1.3	Acetone
.< .63	Trichlorofluoromethane	23.8	— Carbon Disulfide
< .63	Chloroethane		carbon bisailide
< .35	l,l-Dichloroethane		
< .35	l,2-Dichloroethane		
< .48	l,l,l-Trichloroethane		
< .63	 l,1,2-Trichloroethane		
< .86	1,1,2,2-Tetrachloroethane		
< .63	Vinyl Chloride		

1,1-Dichloroethene

Trichloroethene

Tetrachloroethene

1,2-Dichloropropane

Trans-1,2-Dichloroethene

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

< .35 < .20

< .24

< .51

< .63

< .75

< .63

Client: Cre	gg & Associates S	ample I.D.:	B1 @ 9-10"
Sample Matrix:	Soil	Date Collected:	·. 9-6-84
Method No.:	EPA 8240 [	ate Received by Lab	: 9-7-84
		Date Analyzed: 9-12	-84
<u>ug/kg</u>	-	ug/kg	
< .63	Bromomethane	10.5	_ Benzene
< .63	Chloromethane	< .75	Chlorobenzene
< .28	Bromodichloromethane	28.8	Toluene
< .39	Dibromochloromethane	< .90	- Ethylbenzene
< .35	Methylene Chloride	< .63	Acrolein
< .59	Bromoform	< .63	- Acrylonitrile
< .20	Chloroform	<1.3	Methyl Ethyl Ketone
. < .35	Carbon Tetrachloride	<1.3	Acetone
< .63	Trichlorofluoromethan	e	
< .63	Chloroethane		
. 35	.1,1-Dichloroethane	·	
35	1,2-Dichloroethane		
< .48	1,1,1-Trichloroethane		
< .53	1,1,2-Trichloroethane		
< .86	1,1,2,2-Tetrachloroet	hane	
. < .63	Vinyl Chloride		
< .35	1,1-Dichloroethene		
< .20	Trans-1,2-Dichloroeth	ene	
. < .24	Trichloroethene		
. < .51	Tetrachloroethene		
< 63	2-Chloroethylvinyleth	er	
. 75	1,2-Dichloropropane		
< .63	CIS - 1,3-Dichloropro	pene	
63	Trans-1.3-Dichloropro	nene	

Client: Gre	gg & Associates	Samp1	le I.D.: Bo-:	(-ы) 2	4 <sup>1</sup> and 39 <sup>1</sup> (Composite
Sample Matrix:_			Collected:		
Method No.:	EPA 8240 1	Date	Received by	Lab:_	9-7-84
	Direct Sparge	Date	Analyzed:	4-1	2-84
ug/kg			ug/kg	_	
< .63	Bromomethane		< .55		Benzene
< .63	Chloromethane		< .75		Chlorobenzene
< .28	Bromodichloromethane		< .75		Toluene
< .39	Dibromochloromethane		< .90		Ethylbenzene
< .35	Methylene Chloride		< .63		Acrolein
< .59	Bromoform		< .63		Acrylonitrile
< .20	Chloroform		<1.3		Methyl Ethyl Ketone
< .35	Carbon Tetrachloride		<1.3		Acetone
< .63	Trichlorofluoromethan	lė	25.4		Carbon Disulfide
< .ĝ3	Chloroethane				
< .35	1,1-Dichloroethane				
< ., 35	1,2-Dichloroethane				
< .48	1,1,1-Trichloroethane	ı			
< .63	1,1,2-Trichloroethane				
< .86	1,1,2,2-Tetrachloroet	hane			
< .63	Vinyl Chloride				
< .35	1,1-Dichloroethene				
< .20	Trans-1,2-Dichloroeth	ene			:
< .24	Trichloroethene				
< .51	Tetrachloroethene				
< .63	2-Chloroethylvinyleth	er			
75	1,2-Dichloropropane				
<u> </u>	CIS - 1,3-Dichloropro	pene			
< .63	Trans-1.3-Dichloropro	nenė			

sociates Samp	le I.D.: Bo-Q-E	31 (4 23 1
oil Date	Collected: 9-	-6-84
N 8240 Date	Received by Lab:_	9-7-84
: Sparge - Date	Analyzed: 9-13	2-84
	ug/kg _	
omethane	11.0	Senzene
romethane	< .75	Chlorobenzene
odichloromethane		Toluene
omochloromethane	< .90	Ethylbenzene
ylene Chloride	< .63	Acrolein
oform	< .ö3	Acrylonitrile
ro fo riii	<1.3	Methyl Ethyl Ketone
on Tetrachloride	<1.3	Acetone
nlorofluoromethane		
roethane		
Jichloroethane		
Dichloroethane		
l-Trichloroethane		
?-Trichloroethane		
2,2-Tetrachloroethan	e	
l Chloride		
Dichloroethene		
-1,2-Dichloroethene		:
loroethene		
	oil Date A 8240 Date C Sparge Date C Sparge Date Commethane Controloromethane Contro	Date Collected: 9- A 8240 Date Received by Lab: Sparge Date Analyzed: 9-13

< .51

< .63

< .75

< .63

< .63

Tetrachloroethene

1,2-Dichloropropane

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

Client: Greeg	& Associates S	ample	I.D.: <u>B6-0-B</u>	1 @ 321
Sample Matrix:	Soil D	late Co	llected: 9-6-	-84
Method No.:	EPA 8240 D	ate Re	ceived by Lab:	9-7-84
	Direct Sparge p	late An	alyzed: 9-12-	-84
<u>ug/kg</u>			ug/kg	
< .63	Bromomethane	· . <u>·</u>	11.5	Benzene
< .63	Chloromethane	_	< .75	Chlorobenzene
< .28	Bromodichloromethane	_	29.3	Toluene
< .39	Dibromochloromethane	_	< .90	Ethylbenzene
< .35	Methylene Chloride	_	< .63	Acrolein
< .59	Bromo form	_	< ',63	Acrylonitrile
< .20	Chloroform	_	<1.3	Methyl Ethyl Keton
< .35	Carbon Tetrachloride		<1.3	Acetone
< .63	Trichlorofluoromethan	6		
< .63	Chloroethane			
< .35	1,1-Dichloroethane			
< .35	1,2-Dichloroethane			
< .48	l,l,l-Trichloroethane			
< .63	1,1,2-Trichloroethane			
< .86	1,1,2,2-Tetrachloroeth	hane		
< .63	Vinyl Chloride			
< .35	1,1-Dichloroethene			

Trans-1,2-Dichloroethene

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene Trans-1,3-Dichloropropene

Trichloroethene

Tetrachloroethene

1,2-Dichloropropane

< .20

< .24 ·< .51

< .63

< .75

< .63

#### VOLATILE ORGANIC ANALYSIS (VOA) DATA SUMMARY

Client: Gree	or & Associates	Sample I.D.: 86-0-81 6 40'
Sample Matrix:	-	Date Collected: 9-6-84
Method No.:	EPA 8240	Data Received by Lab: 9-7-84
D	irect Sparge	Date Analyzed: 9-12-84

ug/kg		ug/kg	
< .63	Bromomethane	9.8	Benzene
< .63	Chloromethane	< .75	Chlorobenzene
< .28	Bromodichloromethane	32.0	Toluene
< . 39	Dibromochloromethane	< .90	Ethylbenzene
< .35	Methylene Chloride	< .63	_ Acrolein
< .59	Bramoform	< .63	Acrylonitrile
< .20	Chloroform	<1.3	Methyl Ethyl Ketone
< .35	Carbon Tetrachloride	<1.3	Acetone
< .63	Trichlorofluoromethane		
< .63	Chloroethane		
< .35	1,1-Dichloroethane		
< .35	1,2-Dichloroethane		
< .48	l,l,l-Trichloroethane		
< .63	1,1,2-Trichloroethane		
< .86	1,1,2,2-Tetrachloroethane		
<, .63	Vinyl Chloride		
< .35	_ l,l-Dichloroethene		
< .20	Trans-1,2-Dichloroethene		:
< .24	Trichloroethene		
< .5]	Tetrachloroethene		
< .63	2-Chloroethylvinylether		
< .75	1,2-Dichloropropane		
< :03	CIS - 1,3-Dichloropropene		

Trans-1,3-Dichloropropene

Gregg & Associates Lockheed Project Received: 9-7-84 Analyzed: 9-21-84

#### Petroleum Hydrocarbons by IR EPA Method 418.1

	Sample 1.D.	mg/kg
	Composite B6-F26-MV1 & B6-F26-MV2	< 2
	Composite B6-F3-MV1 & B6-F3-MV2	2.1
	B6-F31-MV1 @ 13-14'	70.8
	86-K-81 @ 3-4'	< 2
•	B6-K-B1 @ 9-10'	< 2
	B6-K-B1 @ 14-15'	< 2
	B6-K-B1 @ 25'	< 2
	B6-K-B1 @ 39-40'	2.2
	B6-K-MV1 @ 8-9'	< 2
	Duplicate B6-F26 composite	< 2
•	Duplicate B6-KB1 @ 14-15'	< 2
	Spike Recoveries	<u>K</u>
	B6-F26 MV composite	100.8%
	B6-K-B1 @ 3-4'	96.1%



Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

I.D.# 01-001459

October 15, 1984

Gregg & Associates 18351 Beach Blvd. Huntington Beach, CA 92647

Attention: Dean Gregg

RE: Lockheed project; #84-106-002

On September 7, 1984 Analytical Technologies, Inc. received a second shipment of 21 soil samples collected from the Lockheed project site. Described below is the disposition of each sample.

- These samples were analyzed for petroleum hydrocarbons and/or oil and grease using IR (EPA Method 418.1 and 413.2) B6-F5-MV1 (15') composited with B6-F5-MV2 (15') B6-F27-MV1 (15-16') composited with B6-F27-MV2 (15-16') Composite of B6-R-B1 (20') B6-R-B1 (30') and B6-R-B1 (40') Composite of B6-R-B2(20') Bg-R-B2(25') and B6-R-B2 (30') Composite of B6-R-B3(15') and B6-R-B4(15') B6-F-25-(15')
- These samples were composited and analyzed for volatile organics (EPA Method 8240) and the CAM list of metals. B6-M-Bl (9-10') B6-M-Bl (14-15') B6-M-Bl (24-25') B6-M-Bl (39-40')
- 3) This sample was analyzed for pH and sulfates. B6-H-MV1 (12-13)
- 4) These remaining samples were archived.

  B6-M-B1 (6-7') 3" and 6" soil tubes

  B6-R-B1 (8') 3" and 6" soil tubes

  B6-R-B2 (8") 3" and 6" soil tubes

All samples analyses were completed in accordance with EPA methods or equivalent. If you have any questions, please call

( axolyn. Site Carolyn Sites Data Manager

Reviewed by

Laboratory Supervisor

### PETROLEUM HYDROCARBONS AND OIL AND GREASE (EPA Methods 418.1 and 413.2)

Gregg & Associates Lockheed Project

Received: Analyzed:

9/7/84 10/10/84

Sample I.D.	Petroleum Hydrocarbons mg/kg	Oil & Grease mg/kg
B6-F5-MV 1&2 (composite)	7.71	NR*
B6-F27-MV 1&2 (composite)	10.7	NR*
86-R-B1 @ 20',30' and 40' (composite)	24.3	23.3
B6-R-B2 @ 20',25'and 30' (composite)	< 1.0	< 1.0
B6-R-B3 and B6-R-B4 (composite)	22.2	21.5
B6-F-25 •	1.27	NR*
Spike Recovery		
B6-F27-MV 1&2	83.0%	·

<sup>\*</sup>NR = not a requested test

#### CAM METALS (TTLC)

Gregg & Associates Lockheed Project Received: 9/7/84

Analyzed:

Test Parameter	B6 - M - B1 composite (9-10' thru 39 - 40') (mg/kg)
Antimony	<2.5
Arsenic	3.3
Barium	43.7
Beryllium	<1.0
Caclmium	<0.5
Chromium	3.9
Chromium (hexavalent)	NT*
Cobalt	2.6
Copper	7.5
Lead •	<2.5
Mercury	. <0.06
No lyb denum	<1.0
Nickel	3.5
Selenium	<2.5
Silver	<2.5
Tallium	<2.5
Vanadium	11.9
Zinc	20.7

\*NT = not tested because total concentration of chromium is below the soluble limits

<u>pH</u> and Sult	fate	
	pH (units)	Sulfate (mg/kg)
B6-H-MV1 (12-13')	7.40	14.1

CLIENT GREGG & ASSOCIATES
ATI # 01-001459

#### QUALITY CONTROL DATA

DUPLICATES

MATRIX SPIKES

DUPLICATES			MAIKIX SPIKES					
Parameter	Sample I.O.	lst Result	2nd Result	R.P.D.	Sample I.D.	(mg) Result	(mg) True	% Recovery
Antimony	other	<2.25	<2.5	-	other	.025	.025	100
Arsenic	other	<2.25	<2.5	-	other	.020	.025	30.0
Barium	other	109	31.8	29	B6-M-B1	-	-	89.0
Beryllium	other	<1.0	<1.0	-	B6-M-B1	-	-	91.0
Cadmium	other	< .001	< .001	-	other	.042	.050	84.0
Chromium	other	135	127	6.1	other	-	-	100
Cobalt	other	2.4	2.2	8.9	86-M-81	-	-	88.0
Copper	other	20.9	17.7	11.4	other	3.04	3.11	97.0
Lead	other	<.005	<.005	-	B6-M-B1	.014	.02	70.0
Mercury	other .	40.0004	<0.0004	-	other	.0045	.005	90.0
Molybdenum	other	<1.0	<1.0	-	B6-M-B1	l - 1	-	35.0
Nickel	other	6.7	5.8	15.9	other	-	-	101
Selenium	other	<2.5	<2.5	-	other .	12.4	13.2	94.0
Silver	other	<2.5	<2.5	- ·	other	-	-	104
Thallium	other	<.05	<.05	<b>.</b> -	86-M-B1	.016	.02	30.0
Vanadium	other	10.1	8.3	13.6	B6-M-B1	-	- 1	96.0
Zinc	other	49.4	46.9	5.2	other	-	-	102
				1		}	l	
		1	1	•	1		ŧ ,	1

R.P.D. = Relative Percent Difference



B6-M-B1

Client: Gregg	& Associates S	ample	e I.D.: 1459 con	posițe
Sample Matrix:			Collected: 9/6/8	
Method No.:	EPA 8240 D	ate l	Received by Lab:	9/7/84
			Analyzed:	9/28/84
μg/Kg			μg/Kg	-
< 125	Bromomethane		<110	Benzene
< 125	Chloromethane		<150	Chlorobenzene
. < 55	Bromodichloromethane		<150	Toluene
·< 78	Dibromochloromethane		<180	Ethylbenzene
<u> </u>	Methylene Chloride		<125	Acrolein
< 118	Bromo form		<125	Acrylonitrile
< 40	Chloroform		<250	Methyl Ethyl Ketone
< 70	Carbon Tetrachloride		< 250	Acetone
< 125	Trichlorofluoromethan	<u>e</u>		•
· < 125	Chloroethane			
< 70.	1,1-Dichloroethane			
< 70	1,2-Dichloroethane			
< 95	1,1,1-Trichloroethane			
< 125	1,1,2-Trichloroethane			
< 170	1,1,2,2-Tetrachloroeth	iane		
< 125	Vinyl Chloride			
< 70	1,1-Dichloroethene			
< 40	Trans-1,2-Dichloroethe	ene		
< 48	Trichloroethene			
< 100	Tetrachloroethene			
< 125	2-Chloroethylvinylethe	r		
< 150	1,2-Dichloropropane			
< 125	CIS-1,3-Dichloroproper	16		
ر ۱۵۲	Trans-1 3-Dichloroprov	ana		



Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

I.D. 01-001436

October 15, 1984

Gregg & Associates 18361 Beach Blvd. Huntington Beach, CA 92647

Attention: Dean Gregg

Re: Lockheed Project; #84-106-002

On September 14, 1984 Analytical Technologies, Inc. received the third shipment of nineteen (19) soil samples collected from the Lockheed project site. Described below is the disposition of each sample.

- 1) These samples were analyzed for petroleum hydrocarbons using IR (EPA Method 418.1).
  Composite of B6-F-16 @ 10', 20', 32' and 40'
  Composite of B6-B-6 @ 10' and 20'
  Composite of B6-B-6 @ 30' and 40'
  86-B-G @ 5'
  B6-F-15 @ 10'
  B6-F-15 @ 22'
  B-6-0 (M-1) @ 12'
- 2) These samples were analyzed for solvents using GC/F1D and/or volatile organics (EPA Method 8010 and 8020).

  B6-F-16 @ 20'+10' B6-F-16 @ 10'

  B6-B-G @ 5'

  B6-B-G @ 10' 20'

  B6-B-G @ 30' 40'

  B-6-0 (M-1) @ 1'
- These samples were analyzed for the CAM list of metals, sulfate and cyanide.

  B6-B-G @ 5'
  Composite of B6-B-G @ 10' and 20'
  Composite of B6-B-G @ 30' and 40'
- 4) Soil pH was determined on these samples.

  B6-B-G @ 5' B-6-B (B-2) @ 5'
  B6-B-G @ 10' and 20' B-6-B (B-2) @ 18'
  B6-B-G @ 30' and 40' B-6-B (B-2) @ 32'
  B-6-B (B-2) @ 40'



Gregg & Associates Page 2

5) These remaining samples were archived. B6-F-16 @ 5' B6-F-15 @ 5'

All sample analyses were done in accordance with EPA methods or equivalent. If you have any questions, please call.

Carolyn A. Sites

Carolyn A. Sites Data Munager Reviewed:

Mark King Laboratory Supervisor

CAS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

#### DATA SUMMARY

Gregg & Associates Lockheed Project Received: 9-14-84

#### Petroleum Hydrocarbons (EPA Method 418.1)

	Analyzed:	10-10-84
Sample 1.D.	mg/kg	. •
B6-F-16 @ 10', 20' 32' and 40' (Composite)	3.8	
B6-B-G @ 10' and 20' (Composite)	5.4	
B6-B-G @ 30' and 40' (Composite)	11.4	
B6-B-G @ 5'	2.6	
86-F-15 @ 10'	<1.0	
BG-F-15 € 22'	2.2	
B-6-0 (M-1) @ 12'	<1.0	

#### pH Determination

	Analyzed:	9-26 & 27-84
Sample 1.D.	<u>units</u>	
B6-B-G @ 5'	7.65	
Composite of B6-B-G @ 10' and 20'	7.70	
Composite of B6-B-G @ 30' and 40'	8.25	
B-6-E (B-2) @ 5'	6.70	
B-6-B (B-2) @ 18'	7.40	
B-6-B (B-2) @ 32'	7.10	
B-6-B (B-2) ( 40'	7.90	

#### DATA SUMMARY

Gregg & Associates Lockheed Project

Received: 9-14-84 Analyzed: 9-25 thru 10-8-84

Test Parameter	B6-B-G @ 5' (mg/kg)	Sample I.D. B6-B-G @ 10-20' (mg/kg)	B6-B-G @ 30'-40' (mg/kg)
Antimony	<2.5	<2.5	<2.5
Arsenic	5.1	8.9	10.8
Barium	35.1	69.4	60.0
Beryllium	<1.0	<1.0	<1.0
Cadınium	<0.5	<0.5	<0.5
Chromium	4.3	6.8	10.0
Chromium (hexavalent)	<0.5	<0.5	<0.5
Cobalt	2.1	3.4	3.6
Copper	8.4	10.0	12.6
Lead	<2.5	<2.5	<2.5
Mercury	<0.06	<0.06	0.14
Molybdenum	<1.0	<1.0	<1.0
Nickel	3.3	5.7	6.1
Selenium	<2.5	<2.5	<2.5
Silver	<2.5	<2.5	<2.5
Thallium	<2.5	<2.5	<2.5
Vanadium	9.4	15.7	16.3
Zinc	16.6	30.4	30.9
Cyanide	<0.2	<0.2	<0.2
Sulfate	17.1	8.7	4.7

### Solvent Screen using GC/F1D (mg/kg)

Gregg & Associates Lockheed Project

Received: 9-14-84 Analyzed: 10-2 & 4-84

Sa	mp	l e	I	.D	

				Jampie	1.5.		
	86-F-16 @ 10'	B5-F-16 @ 20'	86-8-G @ 5'	B6-B-G @ 20'	B6-B-G @ 40'	B-6-0 (M-1) @ 1'	Spike Recovery (%)
Isopropyl Alcohol	<2	<2	<2	<2	<2	<2	30
Methyl Ethyl Ketone	<1	< 1	<1	< 1	<1	< 1	38
Metyl Isobutyl Ketone	<3	<3	< 3	<3	< 3	<3	81
Acetone	<6	<6	<6	<6	<6	<6	31
Tetrachloroethylene	<2	<2	<2	<2	<2	<2	-
Stoddard Solvent	<6	<6	<6	<6	<6	<6	-
Diesel Fuel	<20	<20	60	<20	<20	114	70

DETELLÄL	TECHNOLOGIES,	INC.
JETTICAL	recondedates,	III.

CLIENT Gregg & Associates
ATI # 01-001486

#### QUALITY CONTROL DATA

DUPLICATES

MATRIX SPIKES

	<del></del>	DUPLICAL	L J	······································	<del></del>	MATRIX	JIINLS	<del></del>
Parameter	Sample I.D.	lst Result	2nd Result	R.P.D.	Sample I.D.	(ug) Result	(ug) True	% Recovery
Antimony Arsenic Barium Beryllium Cadmium Chromium Cobalt Copper Lead Mercury Molybdenum Nickel Selenium Silver Thallium Vanadium Zinc Cyanide Sulfate	B6-B-G @ 20' other other other other other other other other other other other other other other other other other sther other other other sther other other other other other other other	<pre>&lt;2.5     .18     8.9     &lt;1.0     &lt;0.5 135     &lt;1.0     43.63     &lt;2.5     &lt;.0004     &lt;1.0     -     2.5     &lt;2.5     &lt;1.0     84.0     &lt;.02 16.9</pre>	<2.5     .19     7.6     <1.0     <0.5 127     <1.0     43.59     <2.5     <.0004     <1.0     -     <2.5     <2.5     <1.0     85.9     <.02 17.3	5.4 16	B6-B-G:@ 40' other B6-B-G @ 5' B6-B-G @ 5' other other B6-B-G @ 5' other other other b6-B-G @ 5' other other other other other other other other other	,019 .037 - .0043 2.56 - 3.9 .022 .008 - 3.41 12.4 1.99 .015 - 3.26 .157 17.3	.025 .034 - .005 2.53 - 3.8 .025 .010 - 3.64 13.2 2.50 .020 - 3.27 .184 16.6	76.0 109 103 95.0 86.0 101 88.0 103 88.0 80.0 92.0 93.7 93.9 79.6 75.0 96.0 99.6 85.3 104

Client: Cregg & Associates	Sample I.D.: 1486 B6-F-16 @ 10
Sample Matrix: Soil	Date Collected: 9-13-84
Method No.: DIRECT SPARGE	Date Received by Lab: 9-14-84
•	Date Analyzed: 10-18-84

µg/Kg		μg/Kg	_
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
. 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
< 11.8	Bromoform	< 12.5	- Acrylonitrile
< 4.0	_ Chloroform	< 25.0	Methyl Ethyl Ketone
< 7.0	_ Carbon Tetrachloride	< 25.0	Acetone
< 12.5	Trichlorofluoromethane		_
< 12.5	Chloroethane		
7.0	1,1-Dichloroethane		
<7.0	_ 1,2-Dichloroethane		
9.5	l,1,1-Trichloroethane		
12.5	1,1,2-Trichloroethane		

1,1,2,2-Tetrachloroethane

Trans-1,2-Dichloroethene

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

Vinyl Chloride

Trichloroethene

Tetrachloroethene

1,2-Dichloropropane

1,1-Dichloroethene

. 17.3

< 12.5

< 7.0

:< 4.0 .< 4.8

< 10.3

< 12:5

< 15.0

< 12.5 < 12.5

Client: Gre				B6-F16-10 (DUPLICATE)		
Sample Matrix: Soil		Date Collected: 9-13-84				
Method No.: DIRECT SPARGE		Date Received by Lab: 9-14-84				
	0	ate Analya	red: 10-1	8-84		
<u>µ9/Кд</u>			µg/Kg	<del>-</del>		
< 12.5	Bromomethane		< 11.0	Benzene		
<u> </u>	Chloromethane		< 15.0	_ Cµlorobenzene		
< 5.5	Bromodichloromethane		< 15.0	_ Toluene		
< 7.8	Dibromochloromethane		< 18.0	_ Ethylbenzene		
· <u> </u>	Methylene Chloride		< 12.5	_ Acrolein		
8.11	Bromoform		< 12.5	_ Acrylonitrile		
< 4.0	Chloroform		< 25.0	_ Methyl Ethyl Ketone		
< 7.0	Carbon Tetrachloride		< 25.0	Acetone		
< 12.5	Trichlorofluoromethan	ę				
< 124.5	Chloroethane		,			
< 7.0	1,1-Dichloroethame					
7.0	1,2-Dichloroethane		•			
< 9.5	l,1,1-Trichloroethane		•			
12.5	1,1,2-Trichloroethane		. •			
< 17.3	1,1,2,2-Tetrachloroet	hane				
< 12.5	Vinyl Chloride					
< 7.0	1,1-Dichloroethene					
< 4.0	Trans-1,2-Dichloroethe	ene				
< 4.8	Trichloroethene					
< 10.3	Tetrachloroethene					
<.12.5	2-Chloroethylvinylethe	er				
- 15.0	1,2-Dichloropropane					
< 12.5	CIS - 1,3-Dichloroprop	pene		•		
< 12.5	Frans-1,3-Dichloroprop	'				
	•					

Client: Gregg & Associates		Sample I.D.: <u>B6-F16 @ 20</u> Date Collected: 9-13-84				
Method No.: DIRECT SPARGE			ed by Lub:			
•	0.	ite Analyz	ed: 10	1-18-84		
µg/Kg			ug/Kg			
< 12.5	- Eromomethane		< 11.0	Benzene		
< 12.5	Chloromethane	<del></del>	< 15.0	Chlorobenzene		
< 5.5	Bromodichloromethane		< 15.0	Toluene		
< 7.8	Dibromochloromethane	-	< 18.0	- Ethylbenzene		
< 7.0	Methylene Chloride		< 12.5	Acrolein		
< 11.8	Bromoform .		< 12.5	Acrylonitrile		
< 4.0	Chloroform		< 25.0	Methyl Ethyl Ketone		
< 7.0	Carbon Tetrachloride		< 25.0	Acetone		
< 12.5	Trichlorofluoromethane					
< 12.5	Chloroethane					
< 7.0	1,1-Dichloroethane					
< 7.0	1,2-Dichloroethane					
< 9.5	1,1,1-Trichloroethane					

1,1,2-Trichloroethane

Vinyl Chloride

Trichloroethene

Tetrachloroethene

1,2-Dichloropropane

1,1-Dichloroethene

1,1,2,2-Tetrachloroethane

Trans-1,2-Dichloroethene

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

< 17.3

< 12.5

< 10.3

< ·12.5

< 15.0

< 12.5

12.5

7.0

< 4.0

### VOLATILE ORTANIC ANALYSIS (VOA) DATA SUMMARY

Client: Gregg & Associates	Sample I.D.: B6-Bg @ 10-20 Composite
Sample Matrix: Soil	Date Collected: 9-13-84
Method No.: DIRECT SPARGE	Date Received by Lab: 9-14-84
•	Date Analyzed: 10-18-84

µд/Кд	_	µg/Кд	
< 12.5	Bromomethane	< 11.0	Benzene .
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< • 5.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
7.0	Methylene Chloride	< 12.5	Acrolein
. < 11.8	Bromoform	< 12.5	Acrylonitrile
• 4.0	Chloroform	< 25.0	Methyl Ethyl Ketone
. 7.0	Carbon Tetrachloride	< 25.0	Acetone
12.5	Trichlorofluoromethane		
. < 12.5	Chloroethune		
< 7.0	l,l-Dichloroethane		
<u> </u>	1,2-Dichloroethane		
< 9.5	l,l,l-Trichloroethane		
12.5	1,1,2-Trichloroethane		
< 17.3	1,1,2,2-Tetrachloroethane		

< 12.5

< 4.0

× 10.3

< 12.5

< 15.0

< 12.5

< 12.5

4.8

Vinyl Chloride

Trichloroethene

Tetrachloroethene

1,2-Dichloropropane

1,1-Dichloroethene

Trans-1,2-Dichloroethene

2-Chlorcethylvinylether

CIS'- 1,3-Dichloropropene Trans-1,3-Dichloropropene

### VOLATILE ORTANIC ANALYSIS (VOA) DATA SUMMARY

Client: Gre	gg & Associates	Sample 1	.D.:: .D.]	3g @ 30-40 Composite
Sample Matrix:	Soil		llected:	
Method No.: D	IRECT SPARGE	Date Rec	ceived by Lab:	9-14-84
		Date Ana	nlyzed: 10-	-18-84
ид/Кд		_	µq/Kg	
< 12.5 -	Bromomethane	_	< 11.0	Benzene
< 12.5	Chloromethane	~	< 15.0	Chlorobenzene
< 5.5	Bromodichloromethan	e _	< 15.0	Toluene
< 7.8	Dibromochloromethan	e _	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	_	< 12.5	Acrolein
< 11.8	Bromoform	_	< 12.5	Acrylonitrile
< 4.0	Chloroform	_	< 25.0	Methyl Ethyl Ketone
< _7.0	Carbon Tetrachlorid	e _	< 25.0	Acetone
< 12.5	Trichlorofluorometh	ane		
< 12.5	Chloroethane			
< 7.0	1,1-Dichloroethane			
< 7.0	1,2-Dichloroethane			
< 9.5	l,l,l-Trichloroetha	ne		
< 12.5	1,1,2-Trichloroethan	ne		
< 17.3	1,1,2,2-Tetrachloro	ethane		
< 12.5	Vinyl Chloride			
< 7.0	1,1-Dichloroethene			
< 4.0	Trans-1,2-Dichloroet	thene		
< 4.8	Trichloroethene			
< 10.3	Tetrachloroethene			
< 12.5	2-Chloroethylvinylet	ther		
< 15:0	1,2-Dichloropropane			
< 12.5	CIS - 1.3-Dichlorop	90400		

< 12.5 Trans-1,3-Dichloropropene

### VOLATILE ORGANIC ANALYSIS (VOA) DATA SUMMARY

Client:	Gregg & Associates	Sample I.D.: B-6	-0 (M-1)
Sample Matrix:	Soil	Date Collected:	9-13-84
Method No.:	EPA 8240	Date Received by Lab:	9-14-84
•		Date Analyzed:	10-19-84

1// .		- 77	
mg/Kg	·	mg/Kg	
< .63	Bromomethane	< .55	Benzene
< .63	Chloromethane	< .75	Chlorobenzene
< .28	Bromodichloromethane	< .75	Toluene
< .39	Dibromochloromethane	< .90 -	Ethylbenzene
< 1.35	Methylene Chloride	< .63	Acrolein
< ,59	Bromoform	< .63	Acrylonitrile
< .20	Chloroform	<1.3	Methyl Ethyl Ketone
< .35	Carbon Tetrachloride	<1.3	Acetone
< .63	Trichlorofluoromethane		
< .63	Chloroethane		
< : 35	l,l-Dichloroethane	•	
< .35	1,2-Dichloroethane		
< .48	l,l,l-Trichloroethane		·
< .63	1,1,2-Trichloroethane		
< .85	1,1,2,2-Tetrachloroethane		
< .63	Vinyl Chloride		
< .35	l,l-Dichloroethene		
< .20	Trans-1,2-Dichloroethene		
< .24	Trichloroethene		

Tetrachloroethene

1,2-Dichloropropane

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

< .63

< ..75

< .63

. < .63

. .



Corporare Offices, 225 W. 36th Street National City, CA 92050, 619 477-4173

I.D. 01-001531

October 29, 1984

Gregg & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Dean Gregg

Re: Lockheed project; #84-106

On October 2, 1984 Analytical Technologies, Inc. received the seventh shipment of thirty (30) soil samples and two (2) water samples collected from the Lockheed project site. The samples were analyzed for volatile organics, metals, anions, oil & grease and stoddard solvent. Described below is the disposition of each sample.

 These samples were analyzed for volatile organics (EPA Method 8010 and 8020) using gas chromatography.

```
      MEG-0-B2 @ 5'
      MEG-0-B1 @ 5'

      MEG-0-B2 @ 10'
      MEG-0-B1 @ 10'

      MEG-0-B2 @ 22'
      MEG-0-B1 @ 22'

      MEG-0-B2 @ 32'
      MEG-0-B1 @ 27'

      MEG-0-B2 @ 40'
      MEG-0-B1 @ 32'

      MEG-0-B1 @ 32'
      MEG-0-B1 @ 40'

      MEG-0-B1 @ 40'
      MEG-0-B1 @ 40'

      MEG-0-B1 @ 40'
      MEG-0-B1 @ 40'

      MEG-0-B1 @ 40'
      MEG-0-B1 @ 40'
```

```
Composite of A1-B-B1 @ 10', 22', 32' and 40' Composite of A1-B-B2 @ 15', 22', 32' and 40' Composite of A1-P-B1 @ 10', 22', 32' and 40'
```

2) These samples were analyzed for petroleum hydrocarbons (EPA Method 418.1) using IR.

```
      ✓ B6-0-B2 @ 5'
      ✓ B6-0-B1 @ 5'

      ✓ B6-0-B2 @ 10'
      ✓ B6-0-B1 @ 10'

      ✓ B6-0-B2 @ 22'
      ✓ B6-0-B1 @ 22'

      ✓ B6-0-B2 @ 32'
      ✓ B6-0-B1 @ 32'

      ✓ B6-0-B2 @ 40'
      ✓ B6-0-B1 @ 32'

      ✓ C6-F-21
      ✓ A1-V
```



October 29, 1984 Gregg & Associates, Inc. Page 2

3) These samples were analyzed for one or more of the following: silver, sulfate, pH.

Composite of Al-B-Bl @ 10', 22', 32' and 40' composite of Al-B-B2 @ 15', 22', 32' and 40' Composite of Al-P-Bl @ 10', 22', 32' and 40' Al-B-MVl

- This sample was analyzed for oil & grease (EPA Method 413.2) Al-V (water) untreated.
- 5) This sample was analyzed for the CAM list of metals-A-IV (water) treated.
  - 6) These samples were composited and analyzed for stoddard solvent.

Composite of A1-Q-MV1 and MV2 15'.

Carolyn A. Sitas

Carolyn A. Sites Data Manager Reviewed by

Mark King Laboratory Supervisor

CAS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

#### I.D. 01-001531

#### Petroleum Hydrocarbons (EPA Method 418.1)

Gregg & Associates Lockheed Project	Received: 10-2 Analyzed: 10-1	
Sample I.D.	mg/kg	
86-0-81 @ 5'	<1.0	
B6-0-B1 @ 10'	15.5	
B6-0-B1 @ 22'	<1.0	-
B6-0-B1 @ 27'	<1.0	
86-0-B1 @ 32'	<1.0	
B6-0-B1 @ 40'	<1.0	
B6-0-B2 @ 5°	1.8	
B6-0-B2 @ 10'	<1.0	
B6-0-B2 @ 22'	<1.0	
B6-0-B2 @ 32'	<1.0 80	.7% Spike Recovery
B6-0-B2 @ 40'	<1.0	•
86 <b>-</b> F-21 (oil)	89,500	
Ál-V (untreated)	25,000	

Oil & Grease (EPA Method 413.2)

Al-V (untreated)

30,000 mg/L

### VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Cregg & Associates	Date Collected: 9-29-84
Sample 1.D.: 86-0-81 5'	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

		•	
ug/Kg		μg/Kg	
< 0.2	Benzene	< 0.4	Toluene
. 0.1	Bromodichloromethane	< 0.2	l,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	NĎ	- Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	- Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene	,	
< 0.6	l,4-Dichlorobenzene	·	
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		÷
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
: 0.1	1,2-Dichloropropane		
0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
<u> </u>	Éthyl Benzene		
< 0.5	Methylene Chloride		
. 0.4	1,1,2,2-Tetrachloroethune		
0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 9-29-84
Sample I.D.: 86-0-81 10'	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

•			
ug/Kg '	-	цд/Кд	· 
. 0.2	Benzene	< 0.4	Toluene
< 0.1	_Bromodichloromethane	< 0.2	_ 1,1,1-Trichloroethane
. 0.7	. Bromoform	< 0.1	_ 1,1,2-Trichloroethane
< 0.1	Bromomethane	. 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	_ Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	_ Vinyl Chloride
8.0 >	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlurobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		••
< 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
U.1	1,2-Dichloropropane		
<u> </u>	cis-1,3-Dichloropropene		
. 0.1	trans-1,3-Dichloropropene		
<u> </u>	Ethyl Benzene		
0.5	Methylene Chloride		
· Ú.4	1,1,2,2-Tetrachloroethane		
0.1	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 9-29-84
Sample I.D.: B6-0-B1 22'	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

ug/Kg	-	μg/Kg	<del></del> -
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	. 0.2	l,1,1-Trichloroethane
< 0.7	Bromoform	0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	_ Trichlorofluoromethane
0.8	Chlorobenzene	< 0.2	Vinyl Chloride
3.0 >	Chloroethane		
< 0.2	2-Chloroethylvinylether		
. 0.1	Chloroform		
. 0:2	Chloromethane		
< 0.1	Dibromoch loromethane		
. < 0.4	1,2-Dichlorobenzene		
. 0.4	1,3-Dichlorobenzene		
· Ú.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		. •
. 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
₹ 0.1	1,2-Dichloropropane		
· U.1	cis-1,3-bichloropropene		
. 0.1	trans-1,3-Dichloropropene		

- 0.1 Ethyl Benzene

Methylene Chloride

Tetrachloroethene

1,1,2,2-Tetrachloroethane

Ú.5.

0.4

Client: Cregi	g & Associates Da	te Collected:_	9-2 9-84
Sample I.D.:	B6-0-B1 27' Da	te Received by	Lab: 10-2-84
Sample Matrix:	Soil Da	te Analyzed:	10-14-84
µg/Kg	_	нд/Кд	
< 0.2	Benzene	< 0.4	Toluene
. 0.1	Bromodichloromethane	√ 0.2	l,1,1-Trichloroethane
. 0.7	Bromoform	. 0.1	1,1,2-Trichloroethane
. 0.1	Bromomethane	< 0.3	Trichloroethene
< '0.1	Carbon Tetrachloride	ND	Trichlorofluoromethan
8.0	Chlorobenzene	. 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylethe	r	
< 0.1	Chloroform		
. 0.2	Chloromethane		
< 0.1	Dibromoch loromethane		
< 0.4	l,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane	<u> </u>	
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		

trans-1,2-Dichloroethene

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

1,1,2,2-Tetrachloroethane

1,2-Dichloropropane

Methylene Chloride

letrachloroethene

Ethyl Benzene

< 0.1

. 0.1

0.1

• 0.1

0.1

. 0.5

0.4

0.4

,1-Trichloroethane ,2-Trichloroethane

chlorofluoromethane

### VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Gregg & Associates	Date Collected: 9-29-84
Sample I.D.: <u>B6-0-81 32</u> 1	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

<u>р</u> 9/Ку		цд/Ку	
< 0.2	Benzene	· 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,1,1-Trichloro
. 0.7	Bromoform	. 0.1	
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	— Trichlorofluoro
< 0.8	Chlorobenzene	< 0.2	— Vinyl Chloride
< 0.8	Chloroethane		-
< 0.2	2-Chloroethylvinylether		
<u> </u>	Chloroform		
< 0.2	Chloromethane		•
. 0.1	Dibromochloromethane		
0.4	1,2-Dichlorobenzene		
0.4	l,3-Dichlorobenzene		
** Ü.Ü	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
. 0.1	1,2-Dichloropropane		
· 0.1	cis-1,3-Dichloropropene		
. 0.1	trans-1,3-Dichloropropene		
0.1	Ethyl Benzene		
٥.5	Methylene Chloride		
-: 0.4	1,1,2,2-Tetrachloroethune		

Tetrachloroethene

Client: Gregg	& Associates	Date	Collected:	9-29	<del>)-</del> 84	
Sample I.D.:	B6-0-B1 40'	Date	Received by	Lab:	10-2-84	
Sample Matrix:	Soil	Date	Analyzed:	10-1	.4-84	

μg/Kg		ug/Kg	_
< 0.2	Benzene	· 0.4	Toluene
. < 0.1	Bromodichloromethane	< 0.2	- l,l,l-Trichloroethane
< 0.7	Bromo form	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	- Trichlorofluoromethane
. 0.8	Chlorobenzene	. 0.2	- Vinyl Cnloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		·
. ₩.2	Chloromethane		
< 0.1	Dibromochloromethane		
. 0.4	1,2-Dichlorobenzene		
0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	1,2-Dichloroethane		:
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
0.1	1,2-Dichloropropane		·
< 0.1	cis-1,3-Dichloropropene		
0.1	trans-1,3-Dichloropropene		
< 0,1	Ethyl Benzene		
. 0.5	Methylene Chloride		
· Ú.4	1,1,2,2-Tetrachloroethame		
0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 9-29-84
Sample 1.D.: <u>86-0-81 40' Duplicate</u>	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

_			•
µg/Kg		μg/Kg	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,l,l-Trichloroethane
· 0.7	Bromoform	. 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ИD	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	_ Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinyletner		
. 0.)	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		·
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
· 0.1	1,2-Dichloropropane		
0,1	cis-1,3-Dichloropropene		
· U. l	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
. 0.5	Methylene Chloride		

1,1,2,2-Tetrachloroethane

Tetrachloroethene

0.4

. 0.4

#### Volatile Organic Analyses (EPA 8010/8020) Quality Control Summary

	Spike Recovery, % 
Chloroethane	91.7
1,1-Dichloroethene	160
1,1-Dichloroethane	97.1
Chloroform	108
1,2-Dichloroethane	96.9
1,1,1-Trichloroethane	97.2
Carbon Tetrachloride	106
1,2-Dichloropropane	93.7
Trichloroethene	107
Chlorobenzene	87.1
Benzene	93.9
Toluene	95.8

•			
Client: Greys	g & Associates D	ate Collected:	9-29-84
Sample I.D.:	B6-0-B2 5' 0	ate Received by L	ab: 10-2-84
Sample Matrix:	Soil	ate Analyzed:	10-14-84
μη/Kg			
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethune	< 0.2	l,l,l-Trichloroethane
. 0.7	Bromoform	· U.1	1,1,2-Trichloroethune
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	N()	Trichlorofluorometham
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinyleth	er	
.< 0.1	Chloroform		•
3.78	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
0.6	1,4-Dichlorobenzene	•	
ND	Dichlorodifluorometha	ne	
. 0.1	1,1-Dichloroethane		
<.0.1	1,2-Dichloroethane		
. < 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroeth	ene	
· 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloroprope	fie -	
- 0.1	trans-1,3-Dichloropro	pene ·	
- 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroet	วงกลั	

Tetrachloroethene

#### VOLATILE ORGANIC ANALYSIS

#### DATA SUMMARY

(EPA METHOD 8010 & 8020)

Client: Green	g & Associates	Date	Collected:	9-2 9-84	
			_	Lab: 10-2-84	
		Date	Analyzed:	10-14-84	
ug/Kg	•		µg/Kg		
< 0.2	Benzene		< 0.4	Toluene	
< 0.1	Bromodichloromethane		< 0.2	1,1,1-Trichloroetha	ne
·: 0.7	Brailia farili		. 0.1	1,1,2-Trichloroetha	ne
< 0.1	Bromometnane		< 0.3	Trichloroethene	
< 0.1	Carbon Tetrachloride		ON	Trichlorofluorometh	ane
< 0.8	Chlorobenzene		< 0.2	Vinyl Chloride	
. 0.8	Chloroethane				
< 0.2	2-Chloroethylvinyleth	ier			
< 0.1	Chloroform				
0.2	Chloromethane				
0.1	Dibromochloromethane				
< 0.4	1,2-Dichlorobenzene				
0.4	1,3-Dichlorobenzene				
< 0.6	l,4-Dichlorobenzene				
<u> </u>	Dichlorodifluorometha	ine			
< 0.1	1,1-Dichloroethane				
. < 0.1	1,2-Dichloroethane				:
0.1	1,1-Dichloroethene				
< 0.1	trans-1,2-Dichloroetr	iene			
. 0.1	1,2-Dichloropropane				
. 0.1	cis-1,3-Dichloroprope	ne			
. 0.1	trans-1,3-Diemloropre	pene			
< 0.1	Ethyl Benzene				
< 0.5	Methylene Chloride				

1,1,2,2-Tetrachloroethane

letrach loroethene

< 0.4

### VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Greyr & As	ociates Date	Collected:	<del>9-2 9-84</del>
		Received by	Lāb: 10-2-84
Sample Matrix: Soil	Dáte	Analyzed:	10-14-84

нд/Кд		μg/Kg '	
÷ < 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	. 0.2	1,1,1-Trichloroethane
< 0.7	Bromotorm	. 0.1	1,1,2-Trichloroethane
< 0.1	Bromometnane	. 0.3	Trichloroethene
< 0.1	Curbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	. 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Cnloroform		
« <b>0</b> .2	Chloromethane		
0.1	Dibromoch lorome thane		
< 0.4	1,2-Dichlorobenzene		
0.4	l,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
<u> ND</u>	Dichlorodifluoromethane		
· U.1	l,l-Dichloroethane		
<u> </u>	1,2-Dichloroethane		·
0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
- 0.1	1,2-Dichloropropane		
0.1	cis-1,3-Dichloropropene		
0.1	trans-1,3-Dichloropropene		
· U. ]	Ethyl Denzene		
< 0.5	Methylene Chloride		
. 0.4	1,1,2,2-Tetrachloroethane		
. 0.4	letrachluroethene		

### VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Greyg & Associates	Date Collected: 9-29-84
Sample I.D.: 86-0-82 32'	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

μg/Kg		<u> на/Ка</u>	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,1,1-Trichloroethane
< 0.7	Bromo form	< 0.1	1,1,2-Trichloroethane
. < 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	« U.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	_ 2-Chloroethylvinylether		•
< 0.1	Chloroform		
< 0.72	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	_ 1,2-Dichlorobenzene		
< 0.4	_ 1,3-Dichlorobenzene		
< 0.6	l,4-Dichlorobenzene		
110	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	l,2-Dichloroethane		
. 0.1	l,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
. 0.1	l,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
<u>. 0.1</u>	trans-1,5-Dichloropropene		
<u>. 0.1 *</u>	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

letrachloroethene

Client: Gregg & Associates	Date Collected: 9-29-84
Sample I.D.: <u>B6-0-B2 40'</u>	Date Received by Lab: 10-2-84
Sample Matrix: Soil	Date Analyzed: 10-14-84

•			• •
ug/Kg		нд/Кд	
. 0.2	Benzene	< 0.4	Toluene
< 0.1	- - Bromodichloromethane	< 0.2	- l,l,l-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Eromomethane	< 0.3	Trichloroethene
< 0.1	Carpon Tetrachloride	ND	Trichlorofluoromethane
৬ 0.৪	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
. 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
0.•2	Chloromethane		
0.1	Orbromoch loromethane		
< 0.4	1,2-Dichlorobenzene		
. 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		·
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
0.1	l,2-Dichloropropane		
. 0.1	cis-1,3-Dichloropropene		
. 0.1	trans-1,3-Dichloropropene		
Ű. <b>1</b>	Ethyl Benzene		
0.5	Methylene Chloride		
0.4	1,1,2,2-Tetrachloroethane		•
		- + 1 · · · · · · · · · · · · · · · · · ·	

Tetrachloroethene



Corporate Offices, Mtb W. 30th Stiert, National City, CA 90, 63 - 619, 411, 411

I.D.# 01-001572

December 6, 1984

RECEIVED DEC 1 1 1984

Gregg & Associates 18351 Beach Blvd, Suite L Huntington Beach, CA 92647

Attention: Dean Gregg

RE: Lockheed Project; #84-106

On October 12, 1984 Analytical Technologies, Inc. received the eighth shipment of 18 soil samples collected from the Lockheed project site. These samples were analyzed for volatile organics, petroleum hydrocarbons, metals, pH and cyanide.

Described below is the disposition of each sample:

1) These samples were analyzed for volatile organics in accordance with EPA methods 8010/8020.

Al-Background 10' Bl-Background 10' Al-Background 20' Bl-Background 30' Al-Background 40' Bl-Background 40' Composite of B6-S-Bl 10' and 16' Composite of B1-Z-Bl 30' and 40' B1-Z-Bl 10' B1-Z-Bl 20'

2) These samples were analyzed for one or more of the following: petroleum hydrocarbons, pH, cyanide and the CAM list of metals

Al-Background 10' Bl-Background 10' Al-Background 20' Bl-Background 20' Al-Background 30' Bl-Background 30' Al-Background 40' Bl-Background 40' Bl-Z-Bl 10' Bl-Z-Bl 20' Composite of Bl-Z-Bl 30' and 40' Composite of Bl-Fl3-MVI 12' and Bl-Fl3-MV2 12'

All Samples analyses were in accordance with EPA methods or equivalent. Attached are the test results if you have any questions, please call.

Carolyn A. Sites

Carolyn A. Sites Data Manager Reviewed by

Mark King Laboratory Supervisor

Client: Gregg & Associates Date Collected: 10/10/84

Sample I.D.: B6-S-B1 10' & 16' Date Received by Lab: 10/12/84

Sample Matrix: Soil composite Date Analyzed: 11/19/84

μg/Kg	_	ug/Kg	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1		ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	— Vinyl Chloride
< 0.8	Chloroethane	5.6	Methyl Ethyl Ketone
< 0.2	2-Chloroethylvinylether		<u></u>
< 0.1	 Chloroform		
< 0.2	Chloromethane		:
< 0.1	Dibromochloromethane		
. < 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	l,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	1,2-Dichloroethane		,
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	- 1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates

Date Collected: 10/10/84

Sample I.D.: B6-S-B1 10' & 16' D

Date Received by Lab: 10/12/84

Sample Matrix: Soil composite

Date Analyzed: 11/19/84

Duplicate Analysis

ид/Кл		ug/Ka	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	.: 0.2	1,1,1-Trichlornet
< 0.7	Bromoform	· 0.1	1,1,2-Trichloroeth
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromet
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane	5.6	Methyl Ethyl Ketor
< 0.2	2-Chloroethylvinylether		· · · · · · · · · · · · · · · · · · ·
< 0.1	Chloroform		
< 0.2	Chloromethane		
•< 0.1	Dibromochloromethane		
0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	l,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

November 8, 1984

Gregg & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Dean Gregg

Re: Lockheed project; #84-106

On October 23, 1984 Analytical Technologies, Inc. received a ninth shipment containing forty-eight (48) soil samples, collected from the Lockheed project site. The samples were analyzed for cadmium, chromium, pH, petroleum hydrocarbons and volatile organics.

Described below is the disposition of each sample.

1) These samples were analyzed for volatile organics using GC/MS (EPA Method 624).

```
Composite of B1-1 5', 10', 20', 30'
Composite of B1-2 5', 10', 20', 30'
Composite of B1-3 5', 10', 20', 30'
Composite of B1-4 5', 10', 20', 30'
Composite of B1-5 5', 20', 30'
Composite of B1-6 5', 10', 20', 30'
Composite of B1-8 5', 10', 20', 30'
Composite of B1-9 5', 10', 20', 30'
Composite of B6-T-B1 11', 19', 28', 35'
```

2) These samples were analyzed for soil pH, petroleum hydrocarbons (EPA 418.1) and cadmium and chromium using inductively coupled plasma.

```
-Composite of B1-1
-Composite of B1-2
-Composite of B1-3
-Composite of B1-3
-Composite of B1-4
-Composite of B1-9
-Composite of B1-9
```

#### VOLATILE ORTANIC ANALYSIS (VOA) DATA SUMMARY

Client: Gregg & Associates	Sample I.D.: 1596 E6-T-B1 composite
Sample Matrix: Soil	Date Collected: 10-19-84
Method No.: DIRECT SPARGE	Date Received by Lab: 10-23-84
	Date Analyzed: 10-26-84

μg/Kg		µg/Кд	
< 12.5	Bromomethane	< 11.0	Benzene
< 12.5	Chloromethane	< 15.0	Chlorobenzene
< 5°.5	Bromodichloromethane	< 15.0	Toluene
< 7.8	Dibromochloromethane	< 18.0	Ethylbenzene
< 7.0	Methylene Chloride	< 12.5	Acrolein
·< 11.8	Bromoform	< 12.5	Acrylonitrile
• < 4.0	Chloroform	< 25.0 ·	Methyl Ethyl Ketone
< 7.0	Carbon Tetrachloride	< 25.0	Acetone .
< 12.5	Trichlorofluoromethane		
< 12.5	Chloroethane		
< 7.0	1,1-Dichloroethane		
< 7.0	1,2-Dichloroethane	• .	
< 9.5	1,1,1-Trichloroethane		
< 12.5	1,1,2-Trichloroethane	•	
< 17.3	1,1,2,2-Tetrachloroethane	•	

Trans-1,2-Dichloroethene

2-Chloroethylvinylether

CIS - 1,3-Dichloropropene

Trans-1,3-Dichloropropene

Vinyl Chloride

Trichloroethene

Tetrachloroethene

1,2-Dichloropropane

1,1-Dichloroethene

< 12.5

< 7.0

< 4.0

< 4.8

< 10.3

< 15.0

< 12.5

< 12.5

< 12.5



1.0. 01-001652

RECEIVED JAN 4 1985

December 14, 1984

Gregg and Associates 18351 Beach Blvd. Suite "L" Huntington Beach, CA 92647

Project Name: CALAC

84-106 Project No.:

On November 6, 1984 Analytical Technologies, Inc. received twelve (12) soil samples for analyses. Volatile organics were analyzed using gas chromatography, in accordance with EPA Methods 8010 and 8020. Petroleum hydrocarbons were analyzed by taking an aliquot of soil, extracting it with freon, and analyzing the extract using infrared spectrophotometry, in accordance with EPA Method 418.1. California Assessment Manual (CAM) metals were determined by acid digesting an aliquot of soil, and analyzing the digest using inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. Cyanida, pH, and surfactants were analyzed by EPA Methods or equivalent.

Described below is the disposition of each sample.

1) These samples were composited and analyzed for volatile organics, CAM metals, pH, and cyanide.

> B1 - A1 - B2 B1 - A1 - B2 B1 - A1 - B2 30 ' B1 - A1 - B2 40 1

2) These samples were composited and analyzed for volatile organics, surfactants, and cyanide.

> B1 - AH - B1 10' B1 - AH - B1 15' B1 - AH - B1 30 ' B1 - AH - B1 40 '

3) These samples were analyzed individually for volatile organics and petroleum hydrocarbons.

> 6" B6 - F21 - MV1 B6 - F21 - MV2 6" (14')

### 01-001652

Gregg & Associates	DATA SHEET	ntration (mg/kg)
	<u>Parameter</u>	9.01 <0.2
Sample B1-A1-B2 Composite	pH Cyanide Surfactants	<0.5 <0.2
B1-AH-Bl Composite	Cyaniae  Hydrocarbons	37 109
B6-F27-14V7	Petroleum Hydrocarbons	
B6-F27-MV2		÷

I.D. 01-001667

January 3, 1985

Gregg and Associates 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Ed Baquerizo

Project: CALAC

Project Number:: 84-106

On November 9, 1984 Analytical Technologies, Inc. received twenty-one (21) soil samples for analyses. Volatile organics were analyzed using gas chromatography in accordance with EPA Methods 8010 and 8020. Petroleum hydrocarbons were analyzed by extracting soil aliquots with freon, then, analyzing the freon extract by infrared spectrophotometry, in accordance with EPA Method 418.1. California Assessment Manual (CAM) metals were analyzed by acid digesting soil aliquots, and analyzing the digests by inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. Fluoride and nitrate were analyzed using ion chromatography; pH was analyzed by EPA Method 9040.

Described below is the disposition of each sample.

1) These samples were composited and analyzed for volatile organics and petroleum hydrocarbons.

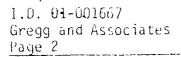
B6-S-SL1 0-5' B6-S-SL1 0-9'

2) These samples were composited and analyzed for volatile organics and chromium. They were analyzed individually for pH, fluoride, and nitrate.

· A1-13-SL1 0-5' A1-13-SL1 7'-10'

3) These samples were composited and analyzed for volatile organics and chromium. They were analyzed individually for pH, fluoride, and nitrate.

A1-12-SL1 5' A1-12-SL1 0-11'





4) These samples were analyzed individually for volatile organics.

```
A-1-J Ring Sample 5'
A-1-J Ring Sample 10'
A-1-J Ring Sample 20'
A-1-J Ring Sample 30'
* A-1-J Ring Sample 40'
B6-U-B1 6" Ring Sample 5'
B6-U-B1 6" Ring Sample 10'
B6-U-B1 6" Ring Sample 20'
B6-U-B1 6" Ring Sample 30'
B6-U-B1 6" Ring Sample 30'
```

5) These samples were composited and analyzed for CAM metals.

```
86-U-B1 6" Ring Sample 10'
86-U-B1 6" Ring Sample 20'
86-U-B1 6" Ring Sample 30'
86-U-B1 6" Ring Sample 40'
```

6) These samples were analyzed individually for volatile organics, CAM Metals, and pH.

```
B1-ZY-B1 6" Ring Sample 5'
B1-ZY-B1 6" Ring Sample 12'
B1-ZY-B1 6" Ring Sample 17'
B1-ZY-B1 6" Ring Sample 30'
B1-ZY-B1 Aug. Sample 38'
```

The volatile organics were analyzed individually, and the results composited mathematically. The results are tentative, a report containing confirmation of the results will follow.

Attached are the test results.

Jun IV. ZWOND John W. Strand Support Services Manager

Reviewed by

Mark King Laboratory Manager

JWS:mat

Attachments

NOTE: Samples from this project will be disposed of in thirty (30) days from the date of this report, unless we are informed otherwise.

Sample A-1-J Ring Sample 40' was not analyzed successfully by direct sparge technique due to an unidentified interference. The sample is being re-analyzed by methanol extraction, data to follow.

### DATA SUMMARY OF CAM LISTED METALS

Client: Gre	gg & Associates	Date Received:	11-9-84	
Sample I.D.:	B6-U-B1 Composite	Date Analyzed:_	11-15 thru 12-10-84	
Sample Matrix	: Soil	Concentration:	milligrams per kilogra	m

(Circle One)		
mg/L or (mg/kg/		
2.5	Antimony	
16.1	Arsenic	
53.1	Barium	•
<1.0	Beryllium	ii
< 0.5	Cadmium	
7.9	Chromium	(total)
<0.5	*Chromium	(hexavalent)
4.8	Copalt	
12.9	Copper	
4.5	Lead	
0.278	Mercury	
8.7	Molybaenu	ım
4.5	Nickel	
<2.5	Selënium	
<2.5	Silver	
<2.5	Thallium	
17.2	Vanadium	
28.7	Zinc	

<sup>\*</sup>Hexavalent chromium is tested only when the total chromium value exceeds threshold limits.

### DATA SHEET

<u>Sample</u>	<u>Parameter</u>	Concentration (mg/kg)
B6-S-SL1 Composite	Petroleum Hydrocarbon	149
A1-13-SL1 Composite	Chromium	154
A1-12-SL1 Composite	Chromium	134
Al-13-SL1 O-5' Jar Sample	pH (units)	10.35
<b>Sump</b> (c	Nitrate Fluoride	11.1 3.3
Al-13-SL1 7'-10' Jar Sample	pH (units)	7.78
	Nitrate Fluoride	6.2 18.6
Al-12-SL1 5' Jar Sample	pH (units)	7.56
• Sumpre	Nitrate Fluoride	24.9 20.9
Al-12-SLT O-11' Jar Sample	pH (units)	9.53
Jumpic	Nitrate Fluoride	11.6 9.5

#### 01-001667 (1 & 2)

## VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Gregg & Associates	Date Collected: 11-17-84
Sample I.D.: <u>B6-S-SL1 Composite</u>	Date Received by Lab: 11-9-84
Sample Matrix: Soil	Date Analyzed: 12-10-84

ug/Kg		<u>µа/Ка</u>	
< 0.2	Benzene	< 0.4	Toluene
7,1	Bromodichloromethane	0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloriae	<u> </u>	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
8.0 >	Chloroethane		
₹ 0.2	2-Chloroethylvinylether		
8.2	Chloroform		
< 0.2	Chloromethane		
< Ú.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		

< 0.4

< 0.6

ND

< 0.1

< 0.1

< 0.1

< 0.1

< 0.1

< 0.1

< 0.5

< 0.4

1,3-Dichlorobenzene

1,4-Dichlorobenzene

Dichlorodifluoromethane

1,1-Dichloroethane

1,2-Dichloroethane

1,1-Dichloroethene

1,2-Dichloropropane

Ethyl Benzene

Methylene Chloride

Tetrachloroethene

trans-1,2-Dichloroethene

cis-1,3-Dichloropropene
trans-1,3-Dichloropropene

1,1,2,2-Tetrachloroethane

Client: Gregg & Associates	Date Collected: 11-17-84
Sample 1.0.: E6-S-SL1 0-5'	Date Received by Lab: 11-9-84
Sample Matrix: Soil	Date Analyzed: 12-10-84

- // -			
<u>μg/Kg</u>	-	ug/Kg	-
< 0.2	Benzene	< 0.4	Toluene
·: 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroetnane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
8.0	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Cnloroethane		
< 0.2	2-Chloroethylvinylether		
16.4	Chloroform		
< •0.2	Chloromethane		
< 0.1	Dibromoch Toromethane		
, < 0.4	1,2-Dichloropenzene		
<u> </u>	1,3-Dichlorobenzene		
۰. Ü. ć	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		Not Detected, limit of detection for this
·< 0.1	1,2-Dichloroethane		compound has not been
< 0.1	l,l-Dichloroethene		fully evaluated.
< 0.1	trans-1,2-Dicnloroethene		
< 0.1	1,2-Dichloropropane		
• < 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
22.9	Tetrachloroethene		

Client: Gregg'& Associates	Date Collected	:11-17-84
Sample I.D.: <u>86-S-SL1 0-9'</u>	Cate Received	by Lab: 11-9-84
Sample Matrix: Soil	Date Analyzed:	12-10-84

•			
ug/Kg	<b></b>	µg/Kg	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,1,1-Trichloroe
. 0.7	Bromoform	< 0.1	l,1,2-Tricnloroe
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Curbon Tetrachloride	ND	Trichlorofluorom
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
* < 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane	ND =	Not Detected, lim
< 0.1	l,2-Dichloroethane		detection for thi compound has not
< 0.1	l,l-Dichloroethene		fully evaluated.
< 0.1	trans-1,2-Dichloroethene		
< 0.1	_ 1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
<u> </u>	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
19.6	Tetrachloroethene		

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

1,1,1-Trichloroethane 1,1,2-Trichloroethane

\_\_\_\_ Trichlorofluoromethane

#### VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Gregg & Associates	Date Col	llected:	11-7-84
Sample 1.D.: <u>B6-U-B1</u> 5'	Date Rec	ceived by Lab:_	11-9-84
Sample Matrix: Soil	Date Ana	alyzed:	12-10-84

μg/Kg	-	ид/Кд
< 0.2	Benzene	< Ú.4
< 0.1	Eromodichloromethane	4.3
< 0.7	B romo form	< 0.1
< 0.1	Bromomethane	2.9
< 0.1	Carbon Tetrachloride	ND
< 0.8	Chlorobenzene	< 0.2
< 0.8	Chloroethane	
< 0.2	2-Chloroethylvinylether	
66.3	Chloroform	
< 0.2	Chloromethane	
< 0.1	Dibromochloromethane	ND =
< 0.4	1,2-Dichlorobenzene	
< 0.4	1,3-Dichlorobenzene	
< 0.6	1,4-Dichlorobenzene	
ОИ	Dichlorodifluoromethane	
< 0.1	1,1-Dichloroethune	
< 0.1	1,2-Dichloroethane	
. 0.1	l,l-Dichloroethene	
< 0.1	trans-1,2-Dichloroethene	
< 0.1	1,2-Dichloropropane	
< 0.1	cis-1,3-Dichloropropene	
<u> </u>	trans-1,3-Dichloropropene	
< 0.1	Ethyl Benzene	
< 0.5	Methylene Chloride	
< 0.4	1,1,2,2-Tetrachloroethane	
661	Tetrachloroethane	

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

Toluene

1,1,1-Trichloroethane

1,1,2-Trichloroethane

Trichlorofluoromethane

Trichloroethene

Vinyl Chloride

Client: Gregg & Associates	Date Collected: 11-7-84
Sample I.D.: <u>D6-U-B1 10'</u>	Date Received by Lab: 11-9-84
Sample Matrix: Soil	Date Analyzed: 12-10-84

<ul> <li>на/Ка</li> </ul>		на/Ка	<del></del>
0.2	Benzene	< 0.4	Toluene
< 0.1	8romodichloromethane	< 0.2	l,l,l-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroetnane
< 0.1	Bromomethane	< 0.3	Trichloroetnene
< 0.1	Carbon Tetrachloride	: ND	Trichlorofluoromathane
8.0	Chlorobenzene	< 0.2	Vinyl Chloride
8.0	Chloroethane		
< 0.2	2-Chloroethylvinylether		

 < 0.2</th>
 Chloromethane

 - 0.1
 Dibromothloromethane

 - 0.4
 1,2-Dichlorobenzene

 - 0.4
 1,3-Dichlorobenzene

 - 0.6
 1,4-Dichlorobenzene

 ND
 Dichlorodifluoromethane

Chloroform

< 0.1

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

 < 0.1</td>
 1,1-Dichloroethane

 < 0.1</td>
 1,2-Dichloroethane

 < 0.1</td>
 1,1-Dichloroethane

 < 0.1</td>
 trans-1,2-Dichloroethane

 < 0.1</td>
 1,2-Dichloropropane

cis-1,3-Dichloropropene0.1 trans-1,3-Dichloropropene

0.1 Ethyl Benzene0.5 Methylene Chloride

.1,1,2,2-Tetrachloroethane

.< 0.4 Tetrachloroethene</p>

Client: Grego & Associates	Date Collected: 11-7-84	
Sample I.D.: B6-U-B1 20'	Date Received by Lab: 11-9-84	_
Sample Matrix: Soil	Date Analyzed: 12-10-84	

hd/kd .		μα/Κα	
· 0.?	- Benzene	< 0.4	— Toluene
÷ 0.1	bromodich foromethane	< 0.2	l,l,l-Trichloroethane
÷ 6.7	Bromo form	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	- Trichloroethene
< 0.1	Carbon Tetrachloride	ND	- Trichlorofluoromethane
8.0 .	Chlorobenzene	< 0.2	- Vinyl Chloride
3.0	Chloroethane		_
< 0.2	2-Chloroethylvinylether		
11.3	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene	ND =	Not Detected, limit of
< 0.4	1,3-Dichlorobenzene		detection for this
< 0.6	1,4-Dichlorobenzene '		compound has not been fully evaluated.
NÚ	Dichlorodifluoromethane		rung crunuacea.
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		

cis-1,3-Dichloropropene

Ethyl Benzene

Methylene Chloride

Tetrachloroethene

trans-1,3-Dichloropropene

1,1,2,2-Tetrachloroethane

- 0.1

< 0.1

< 0.5

<.0.4 • 0.4

#### 01-001667-15

## VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Gregg & Associates	Date Collected: 11-7-84
Sample I.D.: B6-U-B1 30'	Date Received by Lab: 11-9-84
Sample Matrix: Soil	Date Analyzed: 12-10-84

μg/Kg		ug/Kg	
< 0.2	Benzene	< 0.4	Toluene
·< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichloroethane
0.7	Eromo form	< 0.1	1,1,2-Trichloroethane
< 0.1	Bremomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	KD	
< 0.8	Chlorobenzene	< 0.2	_ Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
. 0.2	Chloromethane		
: 0.1	Dibromochloromethane		
. 0.4	1,2-Dichlorobenzene		
0.4	1,3-Dichlorobenzene		
. 0.6	1,4-Dichlorobenzene		
ОИ .	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane	15D ±	Not Detected, limit of
< 0.1	1,2-Dichloroethane		detection for this
< 0.1	l,l-Dichloroethene		compound has not been fully suglested
< 0.1	trans-1,2-Dichloroethene		fully evaluated.

1,2-Dichloropropane

Methylene Chlorice

Tetrachloroethene

Ethyl Benzene

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

1,1,2,2-Tetrachloroethane

< 0.1

< 0.1

< 0.1

< 0.1

< 0.5

< 0.4

< 0.4

Client: Creyq & Associates	Date	Collected:	11-7-84
Sample I.D.: <u>86-U-81</u> 40'	Date	Received by	Láb: 11-9-84
Sample Matrix: Soil	Date	Analyzed:	12-10-84

ug/kg		µg/Kg	<del></del>
< 0.2	Benzene	< 0.4	Toluene
. U.1	Bromodichloromethane	< 0.2	l,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.3	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		

< 0.2	2-Chloroethylvinylether
< 0.1	Chloroform
₹0.2	Chloromethane
< 0.1	Dibromochloromethane
· < 0.4.	1,2-Dichloropenzene
0.4	l,3-Dichlorobenzene
• < 0.5	1,4-Dichlorobenzene
ND	Dichlorodifluoromethane
< 0.1	1,1-Dichloroethane
< 0.1	1,2-Dichloroethane
< 0.1	1,1-Dichloroethene
< 0.1	trans-1,2-Dichloroethene
< 0.1	1,2-Dichloropropane
< 0.1	cis-1,3-Dichloropropene
< 0.1	, trans-1,3-Dichloropropene
< 0.1	Ethyl Benzene
. 0.5	Methylene Chloride

< 0.4

14.4

ND = Not Detected, limit of
 detection for this
 compound has not been
 fully evaluated.

1,1,2,2-Tetrachloroethane

Tetrachloroethene



INTICA**TECHNOLOGIES, I**NC. - Cardalate Offices: 225 W 30th Street National City CA 92050 | 519 477-4473

I.D. 01-001695

January 8, 1985

Gregg & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Dean Gregg

As requested via telephone on November 15, 1984 seven (7) samples were removed from storage and tested for additional parameters. These samples were identified as:

E6-Q-B1 at 23' & 40' B6-N-B1 at 14' - 15' B6-R-B1 at 20' & 30' B6-K-B1 at 39' - 40' & 14' - 15'

Samples B6-Q-B1 23' & 40' and B6-N-B1 14' - 15' were analyzed for volatile organics in accordance, with EPA method 8010/8020. Samples B6-R-B1 20' and B6-R-B1 30' were analyzed for petroleum hydrocarbons (EPA method 418.1). Samples B6-K-B1 14' - 15' and B6-K-B1 39' - 40' were CAM extracted and soluble aluminum was determined on the extracts.

Attached are the test results.

ML:mat

John W. Strand

考upport Services Manager

Reviewed by

Mark King Laboratory Manager

Attachments

NOTE: Samples from this project will be disposed of in thirty (30)

days from the date of this report, unless we are informed

otherwise.

#### I.D. 01-001695

#### DATA SUMMARY

Gregg & Associates Lockheed project Received: 11-15-84

Analyzed: 12-4 to 7-84

### Petroleum Hydrocarbons, mg/kg

B6-R-B1 20' B6-R-B1 30' B6-R-B1 30' Duplicate

6 4 2

### Aluminum-soluble (STLC), mg/L

B6-K-B1 14-15' B6-K-B1 39-40' 32.7

28.0

Client:	Gregg & Associates	Date	Collected:		
Sample I.D.:_	B6-Q-B1 23'	Date	Received by	Lab:	11-15-84
Sample Matrix	: Soil	Date	Analyzed:	12-29	-84

ug/Kg

Toluene

1,1,1-Trichloroethane
1,1,2-Trichloroethane

Trichlorofluoromethane

Trichloroethene

Vinyl Chloride

< 0.4

< 0.2

< 0.1

ND

< 0.2

ug/Kg	
< 0.2	Benzene
< 0.1	Bromodichloromethane
.< 0.7	Bromoform
< 0.1	Bromomethane
< 0.1	Carbon Tetrachloride
< 0.8	Chloropenzene
< 0.8	Chloroethane
< 0:2	2-Chloroethylvinylether
< 0_1	Chloroform
< 0.2	Chloromethane
•< 0.1	Dibromochloromethane
< 0.4	1,2-Dichlorobenzene
< 0.4	1,3-Dichloropenzene
< 0.6	1,4-Dichlorobenzene
ND	Dichlorodifluoromethane
< 0.1	1,1-Dichloroethane
< 0.1	1,2-Dichloroethane
. 0.1	1,1-Dichloroethene
< 0°.1	trans-1,2-Dichloroetnene
< .0.1	1,2-Dichloropropane
<u> </u>	cis-1,3-Dichloropropene
< 0.1	trans-1,3-Dichloropropene
< 0.1	Ethyl Benzene
< 0.5	Methylene Chloride
< 0.4	1,1,2,2-Tetrachloroethane
< 0.4	Tetrachloroethene

ND = Not Detected, limit of detection for this compound has not been fully evaluated.

Client: Gregg & Associates	Date Collected:
Sample I.D.: <u>B6-Q-B1 40'</u>	Date Received by Lab: 11-15-84
Sample Matrix: Soil	Date Analyzed: 12-29-84

ug/Kg		μg/Ka	_
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< û.2	_ l,l,l-Trichloroethane
< 0.7	Bromo form	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND.	- Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	_ Vinyl Chloride
< 0.8	Chloroethane		_
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dipromochloromethane	ND =	not Detected, limit of
< 0.4	1,2-Dichlorobenzene		detection for this compound has not been
< 0.4	1,3-Dichlorobenzene		fully evaluated.

1,4-Dichlorobenzene

1,1-Dichloroethane

1,2-Dichloroethane

1,1-Dichloroethene

1,2-Dichloropropane

Methylene Chloride

Tetrachloroethene

Ethyl Benzene

Dichlorodifluoromethane

trans-1,2-Dichloroethene

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

1,1,2,2-Tetrachloroethane

< 0.6

NÜ

< 0.1

< 0.1

< 0.1

< 0.1

< 0.1

. 0.1

< 0.1

· .0.1

<\_0.5°

< 0.4

< 0.4

Client: Gregg & Associates	Date Collected:
Sample 1.D.: B6-N-B1 14'-15'	Date Received by Lab: 11-15-84
Sample Matrix: Soil	Date Analyzed: 12-29-84

_	ug/Kg	<u></u>
Benzene	< 0.4	Toluene
Bromodichloromethane	< 0.2	- l,l,l-Trichloroethane
Bromo form	< 0.1	1,1,2-Trichloroethane
Bromomethane	< 0.3	Trichloroethene
Carbon Tetrachloride	ND	- Trichlorofluoromethane
Chlorobenzene	< 0.2	Vinyl Chloride
Chloroethane		
2-Chloroethylvinylether		
Chloroform		
Chloromethane		
Dibromochloromethane	ND =	Not Detected, limit of detection for this
1,2-Dichlorobenzene		compound has not been -
l,3-Dichlorobenzene		fully evaluated.
1,4-Dichlorobenzene		
Dichlorodifluoromethane		
ì,l-Dichloroethane		
1,2-Dichloroethane		
l,l-Dichloroethene		
trans-1,2-Dichloroetnene		
1,2-Dichloropropane		
cis-1,3-Dichloropropene		
trans-1,3-Dichloropropene		
Ethyl Benzene		
Methylene Chloride		
1,1,2,2-Tetrachloroethane		
Tetrachloroethene		
	Bromodichloromethane Bromoform Bromomethane Carbon Tetrachloride Chlorobenzene Chloroethane 2-Chloroethylvinylether Chloroform Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethane 1,2-Dichloropropane cis-1,3-Dichloropropane cis-1,3-Dichloropropane Ethyl Benzene Methylene Chloride 1,1,2,2-Tetrachloroethane	Benzene < 0.4  Bromodichloromethane < 0.2  Bromoform < 0.1  Bromomethane < 0.3  Carbon Tetrachloride ND  Chlorobenzene < 0.2  Chloroethane 2-Chloroethylvinylether  Chloromethane Dibromochloromethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane cis-1,3-Dichloropropene trans-1,3-Dichloropropene Ethyl Benzene Methylene Chloride 1,1,2,2-Tetrachloroethane

Corporate Offices 225 W. 30th Street National City, CA 92050 619 477-4171

I.D. 01-001746

January 10, 1985

Gregg & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Project: CALAC

Number: 84106

On December 3, 1984 Analytical Technologies, Inc. received twenty-six (26) liquid samples (water, water and oil, and oil) and four (4) soil samples for analyses. Volatile organic analyses was requested, however the samples were improperly sampled. Ed Baquerizo was contacted, and the samples were resubmitted on December 13, 1984. Volatile organic analyses results are reported in Analytical Technologies, Inc. report number 01-001778.

Oil and grease were analyzed by extracting aliquots of sample with freon, and analyzing the extract using infrared spectrophotometry, in accordance with EPA Method 413.2. For the analyses of California Assessment Manual (CAM) metals, some of the samples required acid digestion before analyses. Sample B1-AI was oil, and was digested with nitric acid, in accordance with EPA Method 3030. Samples B1-ZM, B1-ZN, B1-ZY, B1-AC, B1-AL, and B1-AU were water samples which contained a large amount of solid material. They were digested under high temperature with sulfuric acid. As a consequence of digestion, these samples have a higher limits of detection than the undigested samples. The remainder of the samples were analyzed directly. Analyses of the digests and waters were done using inductively coupled plasma and atomic absorption graphite furnace, in accordance with the EPA 200 series methods. EPA Method 150.1 was used for the analyses of pH.

Described below is the disposition of each sample.

1) These samples were analyzed individually for oil and grease.

B1-AA

B1-H

B1-I

B1-ZY

B1-AE

B1-AH

D1-AL

January 10, 1985 Page 2 Gregg & Associates, Inc.

> B1-AU B1-J MM 2 5' MM 2 8' B6-MM1 5' B6-MM1 8'

- 2) These samples were analyzed individually for pH.
  - B1-ZM
  - B1-ZN
  - B1-ZY
  - B1-AC
  - B1-AI
  - B1-AJ
  - B1-AL
  - B1-AN
  - B1-AP
- 3) These samples were analyzed individually for CAM metals.
  - B-1-ZM
  - B1-ZN
  - B1-ZY
  - B1-AC
  - B1-A1
  - B1-AJ B1-AL
  - B1-AU

  - B1-AN
  - BI-AP

Attached are the test results.

ML:mat

John W. Strand Support Services Manager Reviewed by

Mark King Laboratory Manager

Attachments

Sample	Oil & Grease
B1-AA B1-H B1-I B1-ZY B1-AE B1-AH B1-AL B1-AU B1-J	<pre>     50% oil &gt;50% water     896</pre>
MM 2 5' MM 2 8' B6MM 1 8' B6MM 1 5'	119 mg/kg 993 mg/kg 2213 mg/kg 462 mg/kg
Sample	pH (Units)
B1-ZM B1-ZN B1-ZY B1-AC B1-AI B1-AJ B1-AL B1-AN B1-AP	7.07 1.12 8.09 8.35 7.57 ~ 50% water ~ 50% oil pH on water phase 1.53 7.69 7.25 7.45



Corporate Offices: 225 W. 30th Street National City, CA 92050 619 477-4173

I.D. 01-001754

January 8, 1985

Gregg & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Ed Baquerizo

'Project: CALAC

Number: 84106

On December 5, 1984 Analytical Technologies, Inc. received thirteen (13) soil samples and one (1) water sample for analyses. Petroleum hydrocarbons were analyzed by extracting an aliquot of sample with freon, and analyzing the extract using infrared spectrophotometry, in accordance with EPA method 418.1. Volatile organics were analyzed using gas chromatographs equipped with Hall and photo ionization detector, in accordance with EPA methods 8010 and 8020.

Analysis of the water sample, B6-Q for volatile organics was not possible due to improper sample container.

ML:mat

John W. Strand

Support Services Manager

John W. Strong

Reviewed by

laborator M

Laboratory Manager

Attachments

NOTE: Samples from this project will be disposed of in thirty (30)

days from the date of this report, unless we are informed

otherwise.

Gregg & Associates

I.D. 01-001754

### PETROLEUM HYDROCARBON DATA SHEET

Soil	Sample	Petroleum Hydrocarbons, mg/kg*
B6-82-T1 B6-82-T1 B6-82-T1 B6-82-T1 B6-82-T1 B6-82-T1 B6-82-T2	5' 10' 20' 30' 40' 65' -	5.9 <1.0 <1.0 26.8 3.7 11.9 5.5
B6-82-T2 B6+82-T2 B6-82-T2 B6-82-T2 B6-82-T2 B6-82-T2	10' 20' 30' 45' 60' 80'	17.9 6.3 <1.0 3.0 2.3 <1.0

### Water Sample

26-Q

28% Water 72% Oil

\*(mg/kg) is milligrams per kilogram

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T1 5'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

ug/Kg		ug/Kg	<del></del>
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	8romomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.3	· Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	_ Chloroform		
< 10.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	l,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
NO	Dichlorodifluoromethane		
< 0.1	_ l,l-Dichloroethane		
< 0.1	_ l,2-Dichloroethane		,
< 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichlaropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

. 0.4 .Tetrachloroethene

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: 86-82-T1 10'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

ru/Kg		µg/Кg	
< 0.2	Benzene	. 0.4	Toluene
. 0.1	Bromodichloromethane	< 0.2	
« C.7	Bromo form	< 0.1	i,1,2-Trichloroethane
< 0.1	Eromomethane	< 0.3	Trichlorgethene
< 0.1	Carbon Tetrachloride	СИ	Trichlorofluoromethane
3.0 >	Chlorobenzene	< 0.2	
< 0.8	Chloroethane		-
< 0.2	2-Chloroethylvinylether	•	
< 0.1	Chloroform		
<* G.2	Chloromethane		
.< 0.1	Dibromochloromatname		
< 0.4	1,2-Dichlorobenzene		
. (0.4	1,3-Dichlorobenzene		
· 0.6	1,4-Dichlorobenzene		
ND.	Dichlorodifluoromethane		
< 0.1	1,1-Dichioroetname		
< 0.1	1,2-Dichloroethane		
< 0.1	l,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetracnloroethane		
< 0.4	Tetrachloroethene		

## VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 3020)

. ;

Client: Gregg & Associates	Date	Collected:	12-4-84
Sample I.D.: 86-82-T1 20'	Date	Received by La	o: 12-5-84
Sample Matrix: Soil	Date	Analyzed:	1-2-85

μg/Kg	-	µg/Kg	_
< 0.2	benzene	· 0.4	Toluene
< 0.1	promodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	8 romo form	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carpon Tetrachloride	ND	Trichlorofluoromethane
∢ 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
8.0 >	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		•
< 0.1	Dibromochlorometname		
< 0.4	1,2-Dichloropenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroetname		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichioropropene		
<u> </u>	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-letrachloroethane		

Tetrachloroethene

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: 86-82-T 1 30'.	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

hd\kd		ug/Kg	· <del></del> -
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< C.2	l,l,l-Trichloroetname
< 0.7		< 0.1	1,1,2-Trichloroetname
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	NO	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	 Vinyl Chloride
< 0.8	Chloroethane		·
< 0.2	2-Chloroetnylvinylether		
< 0.1			
< .0.2	Chloromethane		
. 0.1	Dipromocnloromethane		
< 0.4	l,2-Dichlorobenzene		
. 0.4	l,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ИD	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	l,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		
< 0.1	_ trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
. 0.1	cis-1,3-Dichloropropene		
• 0.1	trans-1,3-Dichloropropene.		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
. 0.4	1,1,2,2-Tetrachloroethane		
. 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: 86-82-71 40'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

•			
uq/Kq	-	µq/Kq	
· < 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	
. 0.7	Bromo form	< 0.1	1,1,2-Trichloroetnane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroetmylvinylether		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
. 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
·: 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroetnene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
· 0.ì	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
. 0.4	1,1,2,2-Tetrachloroethane		

Tetrachloroethene

Toluene

1,1,1-Trichloroethane
1,1,2-Trichloroethane

Trichlorofluoromethane

Trichloroethene

Vinyl Chloriae

# VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD S010 & 8020)

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: 86-82-71 65'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

ug/Kg		ug/Kg
< 0.2		< 0.4
< 0.1	Eromodichloromethane	< G.2
< 0.7	Bromo form	< 0.1
< ρ.1	Bromomethane	< 0.3
< 0.1	Carbon Tetrachloride	ND
< 0.8	Chlorobenzene	< 0.2
< 0.8	Chloroethane	
< 0.2	2-Chloroethylvinylether	
< 0.1	_ Chloroform	
<•0.2	Chloromethane	
< 0.1	Dioromochloromethane	
< 0.4	1,2-Dichlorobenzene	
. 0.4	1,3-Dichlorobenzene	
< 0.6	1,4-Dichlorobenzene	
KD	Dichlorodifluoromethane	
< 0.1	l,1-Sichloroethane	
< 0.1	1,2-Dichloroethane	
< 0.1	l,l-Dichloroethene	
< 0.1	trans-1,2-Dichloroetnene	
< 0.1	1,2-Dichioropropane	
< 0.7	cis-1,3-Dichloropropene	
< 0.1	trans-1,3-Dichloropropene	
• 6.1	_ Ethyl Benzene	
< 0.5	Methylene Chloride	
· U.4	1,1,2,2-Tetrachloroethane	
< 0.4	Tetrachloroethene	

Client: Gregg & Associates	Date Collected:	12-4-84
Sample I.D.: B6-82-T2 5'	Date Received by	Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed:	1-2-85

μq/Kg	-	ug/Kg	~
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Brama farm	- 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< υ.1	Carbon Tetrachloride	ИО	Trichlorofluoromethane
. <u>· &lt; 0.8</u>	Chloropenzene	< 0.2	- Vinyl Chloride
3.0 >	Chloroethane		-
< 0.2	2-Chloroethylvinyletmer		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.€	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Orchloroethane		
. 0.1	1,2-Dichloroethane		•
. 0.1	l,l-Dichloroethene		
· < 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl benzene		•
< 0.5	Methylene Chloride		•
< 0.4	1,1,2,2-Tetrachloroethane		

< 0.4

Tetrachloroethene

Client: Gregg & Associates	Date	Collected:	12-4-84
Sample I.D.: B6-82-7 2 10'	Date	Received by Lab	: 12-5-84
Sample Matrix: Soil	Date	Analyzed:	1-2-85

ħd\kd		ug/Kg	
< 0.2	Benzene	< 0.4	 Toluene
< 0.1	Bromodicnloromethane	• 0.2	l,1,1-Trichloroethane
< 0.7	8 rama form	< 0.7	- 1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	- Trichloroethene
. < 0.1	Carbon Tetrachloride	ND	- Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	- Vinyl Chloriae
< 0.8	- Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
- 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dicnlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
. 0.1	1,1-Dichlornethene		
<u> </u>	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-BichTeropropena		
< 0.1	Ethyl Benzene		
÷ 0.5	Methylene Chloride		
< 0:4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected:	12-4-84
Sample I.D.: 66-82-T 2 20'	Date Received by Lab:	12-5-84
Sample Matrix: Soil	Date Analyzed:	1-2-85

μα/ <i>Κ</i> α	,	µg/Кq	_
< 0.2	Benzene	< 0.4	 Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromo form	< 0.1	1,1,2-Trichloroethane
. < 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	- Carbon Tetrachloride	ND	- Trichlorofluoromethane
< 0.3	Chlorobenzene	< 0.2	- Vinyl Chloride
. < 0.8	Chloroethane		_ •
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< O.4	1,3-Dichlorobenzene		
< 0.ō	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
: 0.1	1,2-Dichloroetmane		
. 0.1	l,I-Dichloroethene		
< 0.1	trans-1,2-Dichloroetnene		
< 0.1	1,2-Dichloropropane	-	
< 0.1	cis-1,3-Dichloropropene		
• 0.1	trans-1,3-Dichloropropene		
	Ethyl Benzene		
s 0.5	Methylene Chloride		

. 1,1,2,2-Tetrachloroetname

Tetrachloroethene

Client: Gregg & Associates	Date Collected:	12-4-64
Sample 1.D.: B6-82-T 2 30'	Date Received by	Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed:	1-2-85

	-	µg/Ка	_
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichloroetname
÷ 0.7	Brainoforiii	< 0.1	1,1,2-Trichloroethane
. < 0.1	Bromomethane	< Ú.3	- Trichloroethene
< 0.1	Carbon Tetrachloride	พอ	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		-
< 0.2	2-Chloroethylvinylether		
< Ú.1	Cnloro form		
< 0.2	Chloromethane		
<u> </u>	Dibromochloromethane		
< 0.4	1,2-Unchlorobenzene	·	
- G.4	1,3-Dichlorobenzene		
. 0.6	1,4-Dichlorobenzene		
N O	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.7	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
<u> </u>	trans-1,3-Dichloropropene		
· û.1	Ethyl Benzene		
<u>. 0.5</u>	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
. 3.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample 1.0.: 86-32-T 2 45'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

μg/Kg	-	рд/Ка	
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Browodichloromethane	< 0.2	l,l,l-Trichloroethane
< 0.7	Bromo form	< 0.1	
< 0.1	Bromomethane	< 0.3	Trichioroethene
< 0.1	Carbon Tetrachloride	ИD	Trichlorofluoromethane
8.0 ×	Chloropenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroetnane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
× 0.1	Dipromoch loromethane		
< 0.4	1,2-Dichloropenzena		
- 0.4	1,3-Dichlorobenzene		
< 0.ε	1,4-Dichlorobenzene		
<u> </u>	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroetname		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

~ < 0.4 Tetrachloroethene

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: .B6-82-T 2 45'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

µo/Kq		ug/Kg	•
< Ú.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	
. 0.7	Bromo form	< 0.1	1,1,2-Trichloroethane
. J.l	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ОN	_ Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
. 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
· ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	1,2-Dichloroetname		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
<u> </u>	1,2-Dichloropropane		
<u> </u>	cis-1,3-Dichloropropene		
× 0.1	trans-1,3-Sichloropropene		

Ethyl Benzene

Methylene Chloride

Tetrachloroethene

1,1,2,2-Tetrachloroethane

< 0.1 < 0.5

< 0.4

< 0.4

## VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 3010 & 8020)

Client: Gregg & Associates	Date Collect	ted: 12-4-84	
Sample 1.D.: 86-82-T 2 60'	Date Receive	ed by Lab: 12-5-84	
Sample Matrix: Soil	Date Analyz	ed: 1-2-85	

µg/Kg		на/Ка	-
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,l,l-Trichloroethane
< 0.7	Bromo form	< 0.1	
′< 0.1	Bromomethane	< 0.3	Trichlorgethene
. < 0.1	Carbon Tetrachloride	RD	
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< Ū.ö	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromoch loromethane		
< 0.4	_ l,2-Dicnloropenzene		•
< 0.4	1,3-Dichiorobenzene		
< 0.ε	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	_ 1,2-Dichloroethane		•
` < 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.7	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Cnloride		
< 0.4	1,1,2,2-Tetrachloroethane		

Tetrachloroethene

Client: Gregg & Associates	Date	Collected:	12-4-84
Sample I.D.: B6-82-T 2 80'	Date	Received by	Lab: 12-5-84
Sample Matrix: Soil	Date	Analyzed:	1-2-85

		~ 7/K o	
μα/Κα	_	µg/Кg	
< 0.2	Benzene	< 0.4	_ Toluene
< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichloroethane
< 0.7	Bromotorm	- 0.1	_ 1,1,2-Trichloroethane
< 0.1	Bromomethane	< û.3	_ Trichloroethene
< 0.7	Carbon Tetrachloride	ND	_ Trichlorofluoromethane
8.0 >	Chlorobenzene	< 0.2	_ Vinyl Chloride
8.0 >	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloreform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		•
0.4	1,3-Dichlorobenzene		
. < 0.6	1,4-Dichlorobenzene		
<u> </u>	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		
< 0.1	crans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

Tetrachioroethene

#### REPORT

## TRUESDAIL LABORATORIES, INC.

HEMISTS - MICROBIOLOGISTS - ENGINEERS
HESEARCH - DEVELOPMENT - TESTING

14201 FRANKLIN AVENUE TUBTIN, CALIFORNIA 92680 AREA CODE 714 • 730-6239 AREA CODE 213 • 225-1564 CABLE: TRUELABS

Gregg & Associates
CLIENT 18351 Beach Boulevard

Huntington Beach, California 92647

ATTENTION: Andrew Gregg

SAMPLE Fifteen Water Samples

DATE September 10, 1984 RECEIVED August 20, 1984

LABORATORY NO. 01364

INVESTIGATION

As Indicated

#### **RESULTS**

Parameter	В-6-В	B-6-E	B-6-L	B-6-M	B-6-N	<u>B-6-P</u>	<u>B-6-Q</u>
引, units	2.97	9.19	8.13	7.0	6.80	6.86	6.34
rsenic (As), ppm	<0.0001	<0.0001		< 0.000	L < 0.0001	0.002	_
rium (Ba), ppm	0.45	0.41	-	0.1	0.1	0.1	_
Ayllium (Be), ppm	<0.003	< 0.003		< 0.003		- 0.003	_
admium (Cd), ppm	0.05	0.01	-	< 0.003	0.03	0.01	-
otal Chromium (Cr), ppm	0.01	0.40		< 0.01	0.08	0.07	_
aromium VI (Cr), ppm	∠0.01	<0.01	<0.01	< 0.01	< 0.01	< 0.01	
opper (Cµ), ppm	0.95	0.02	_	< 0.01	0.17	0.57	-
eud (Pb), ppm	0.09	< 0.03	_	<0.03	0.04	0.32	
arcury (Hg), ppm	0.0003	0.0004	_	0.0003	0.0006		-
ickel (Ni), ppm	0.66	0.03	_	0.01	0.02	0.60	_
ilver (Ag), ppm	0.028	< 0.008	-	< 0.008	< 0.008	<0.008	_
hallium (Tl)	0.13	< 0.05	-	< 0.05	< 0.05	<0.05	_
anadium (V), ppm	< 0.07	∠0.07	-	< 0.07	<0.07	<0.07	_
elenium (Se), ppm	0.0004	0.0004	-	0.0013	0.0022	0.0003	-
ntimony (Sb), ppm	<0.1	< 0.1		< 0.1	< 0.1	<0.1	
inc (Zn), ppm	6.54	0.35	_	1.54	6.21	8.05	_
olybdenum (Mo), ppm	<0.1	<0.1	-	·0.1	< 0.1	< 0.1	· _
obalt (Co), ppm	0.12	0.01	-	0.01	0.04	0.02	. · <u>-</u>
ulfate, ppm	-	-	<0.01	-	_	_	
ethanol	-	trace	-	trace	20	-	_
cetone	-	4.3	_	trace	98	-	2.7
sopropanol	-	trace	~	<0.4	130	-	2.4
thyl Ethyl Ketone	-	3.6	-	< 0.4	190	_	0.6
thyl Isobutyl Ketone	-	< 0.4	_	7	490	_	<0.1
sobutyl Acetate	_	< 0.4	_	-	11	_	0.1
scbutyl Alcohol	_	-0.4	_	-	170	-	
roleum Hydrocarbons	_	~	<1	_	-	_	4,400
_							

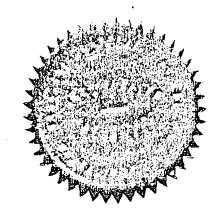
This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from these Laboratories.

#### Sample B-6-R

An infrared spectrum of the sample indicates that the oil is a long chain aliphatic compound such as mineral oil.

#### Sample B-6-0

The initial infrared spectrum indicates that the sample was predominantly gasoline. API Gravity at 60° F was found to be 50.9 while D-86 Distillation indicated that diesel fuel was also present at about the 20% level. B-6-O is therefore approximately 80% gasoline and 20% diesel oil. Residue was 1.7%.



Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Richard D. Reid Chief Water Chemist

#### REPORT

### TRUESDAIL LABORATORIES, INC.

HEMISTS - MICROBIOLOGISTS - ENGINEERS DEVELOPMENT RESEARCH

TUSTIN, CALIFORNIA 92680 AREA CODE 714 . 730-6239 AREA CODE 213 . 225-1564 CABLE: TRUELABS

September 18, 1984

CLIENT

SAMPLE

Gregg & Associates

18351 Beach Boulevard, Suite L

Huntington Beach, California 92647

Attention: Dean Gregg

B-6-0/B-6-B

RECEIVED September 12, 1984

DATE

LABORATORY NO. 01364

INVESTIGATION

Solvent Analysis/Sulfate Determination

#### RESULTS

The oil sample was extracted with HoO, and then was injected onto a SP-1000 packed gas chromatography column and peaks were eluted by temperature program from 50 to 210 C.

The major constituents of water solubles are reported as follows:

, , , , , , , , , , , , , , , , , , ,	Parts Per Million	
Constituents	B-6-0	<u>B-6-B</u>
Ethanol	1.0	<del>~</del> =
Isopropyl alcohol	0.51	
Methyl Ethyl Ketone	2.4	
Isobutyl Alcohol	0.90	
Ethyl Acetate	0.61	
n-Butyl alcohol	2.3	~=
Cyclohexanone	5.3	
Methyl isobutyl ketone	e 2.9	
2-Rexanone	2.7	
Cellusolve acetate	1.0	
Sulfate		170

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Richard D. Reid Chief Water Chemist

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#### REPORT

### TRUESDAIL LABORATORIES, INC.

HEMISTS - MICROBIOLOGISTS - ENGINEERS ESEARCH DEVELOPMENT TESTING

Gregg & Associates LIENT

18351 Beach Boulevard

Huntington Beach, California 92647

ATTENTION: Dean Gregg

AMPLE

Soils (Lockheed)

Project No. 84-106-002

As Requested **VESTIGATION** 



FRANKLIN AVENUE TUSTIN, CALIFORNIA 92680 AREA CODE 714 . 730-6239 AREA CODE 213 . 225-1564 TRUELABS CABLE:

DATE October 3, 1984

RECEIVED September 17, 1984

LABORATORY NO. 01859

#### RESULTS

		Station B-6-	F-A(RT) bb	<u>m</u>
Parameter	5 Ft.	10 Ft.	22 Ft.	40 Ft.
Total Recoverable Hydrocarbons	< 2	4	< 2	2.2

### Station B-6-L(B2), Composite, pam

Total Recoverable Hydrocarbons	7.9
Common Solvents	
2-Hexanone	10.
Carbitol	< 0.2
Butyl Acetate	Trace <10.
Acetone	< 1.
Methyl Isobutyl Ketone	< 1.
Methyl Ethyl Ketone	< 0.1
Isopropyl Alcohol	< 1.
Ethyl Acetate	< 0.3
Cellusolve Acetate	< 2

p. 2

0840

	B6-F-12(B1), Composite, ppm

#### Parameter

Total Recoverable Hydrocarbons

18

### B-6-N(MV1) 12'-13', ppm

Common Solvents	
Carbitol	5.6
2-Hexanone	< 5
Butyl Acetate	20.
Acetone	< 1.
Methyl Isobutyl Ketone	< 1.
Methyl Ethyl Ketone	< 0,1
Isopropyl Alcohol	< 1.
Ethyl Acetate	< 0.3
Cellusolve Acetate	< 2.

B-6-F-20(Bl), Composite, ppm -

Total Recoverable Hydrocarbons

14.

	B-6-F-10 (B1)				
	12'-13'	22'	32'	40'	
Total Recoverable Hydrocarbons	< 2	3.7	2,3	4.1	

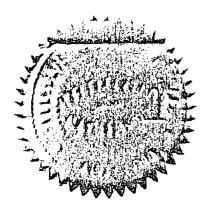
p. 3

			B-6-B (MV1)	, ppm		
Parameter	<u>5'-6'</u>	12'	17'-18'	22'-23'	<u>30'</u>	40'
pH, units Common Solvents	7.1	7.6	8.1	8.7	7.2	7.6
Carbitol	-	34.	-	-	_	-
2-Hexanone	_	∠ 5 <b>.</b>	-	-	-	-
Butyl Acetate	-	15.	-	-	-	_
Acetone	-	< 1.	~	_	_	-
Methyl Isobuyl Ketone	-	< 1.	-	-	-	
Methyl Ethyl Ketone	-	< 1.	-	_	~	
Isopropyl Alcohol	-	< 1.	-	-	-	_
Ethyl Acetate	-	← 0.3	-	-	-	_
Cellusolve Acetate	-	∠ 2	-	-	-	-

Composite Sulfate

8.1

It was impossible to determine whether the hydrocarbons present were gasoline, diesel or kerosene since the levels were found to be very low.



Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Richard D. Reid Chief Water Chemist

#### REPORT

### TRUESDAIL LABORATORIES, INC.

CHEMISTS - MICROBIOLOGISTS - ENGINEERS

Gregg & Associates 18351 Beach Boulevard, Suite L

Huntington Beach, California 92647

Attention: Dean Gregg

SAMPLE Soil Samples for Lockheed 84-106 14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92680 AREA CODE 714 . 730-6239 AREA CODE 213 . 225-1564

> DATE December 19, 1984

CABLE:

RECEIVED October 5, 1984

LABORATORY NO.

01942

TRUELABS

INVESTIGATION

CLIENT

As Requested

#### RESULTS

Milligrams per Kilogram

•		Station Al-F-Bl, ppm			
Parameter	4 1	10'	221	33'	40'
Total Recoverable					
Hydrocarbons	19	380	< 2	<b>∠</b> 2	9.4
Solvents					
Acetone	ND<0.2	1.1	8.2	TR<0.2	6.9
Methyl Ethyl Ketor	ne ND≺0.6	1.3	ND<0.6	ND < 0.6	2.3
Ethyl Acetate	ND<0.3	ND < 0.3	ND<0.3	7.9 N	D 0.3
n-Butyl Alcohol	ND<0.8	4.0	4.3	3.9	5.4
Methyl Isobutyl					
Ketone	1.4	ND < 0.3	ND<0.3	ND<0.3 N	D<0.3
Isobutyl Acetate	1.1	ND<0.3	ND<0.3		

Isopropyl Alcohol, Isobutyl Alcohol, Cyclohexanone, and other solvents were found to be less than 0.5 ppm.

p.	2		
Mil	ligrams	per	Kilogram
	Δ-1-	-F-R2	)

Parameter	10'	23'	32'	40'
Total Recoverable Hydrocarbons Solvents	< 2	< 2	< 2	<2
Acetone	6.9	5.1	0.5	1.0
Isopropyl Alcohol	5.4	ND<0.5	6.0	2.4
Methyl Ethyl Ketone	.ND < 0.6	1.6	ND<0.6	0.8
Ethyl Acetate	ND < 0.3	ND<0.3	3.7	ND<0.3
n-Butyl Alcohol	5.1	10.	5.4	2.4

Isobutyl Alcohol, Cyclohexanone, MIBK, Isobutyl Acetate and others were found to be  $0.6~\mathrm{ppm}$ 

Parameter	Al-E-MV1, (12 ft.)
Total Chromium, ppm	4.1
pH, units	7.4
Total Cyanide, ppm	0.05
Cadmium, ppm	0.20

Milligrams per Kilogram

Parameter	Al-D-MV1, (12 ft.)	Al-D-MV2, (12 ft.)
•		
Water Soluble Hydrocarbons	42	₹2

Parameter	B6-F19-B1 Composite	10'	15'	20'	30'	40'
Total Soluble Hydrocarbon (Diesel)	s <2.	<2.	<2.	3.	<2.	<2.
Solvents Acetone Isopropyl Alcohol Methyl Ethyl Ketone n-Butyl Alcohol	·		4.4 2.3 1.3 5.8	<del></del>		<del></del> -

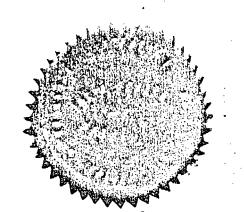
Isobutyl Alcohol, Ethyl Acetate, Cyclohexanone, MIBK, Isobutyl Acetate and others are 0.3 mg/kg.

•	B6-F11-B1
Parameter	Composite
Total Recoverable Hydrocarbons, mg/kg	23.

p.3

### Al-F Liquid

<u>Parameter</u>	Milligrams per Kilogram
Acetone Ethyl Ethyl Ketone Methyl Isobutyl Ketone	1.2 0.6 3.8
Total Hydrocarbons	100%



Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Richard D. Reid Chief Water Chemist

HEMISTS - MICROBIOLOGISTS - ENGINEERS DEVELOPMENT RESEARCH

Greqq & Associates

CLIENT 18351 Beach Boulevard, Suite L

Huntington Beach, California 92647

Dean Gregg Attention:

SAMPLE Soils

Project No. 84-106 (Lockheed)

INVESTIGATION

As Requested



FRANKLIN TUSTIN, CALIFORNIA 92680 AREA CODE 714 . 730-6239 AREA CODE 213 . 225-1564 TRUELABS CABLE:

DATE October 22, 1984

RECEIVED October 10, 198

LABORATORY NO. 01960

#### **RESULTS**

	Al-T-B2 Station			
Parameter	10' - 14' Composite	22' - 30' Composite		
Antimony (Sb)	< 2	< 2		
Arsenic (As)	0.10	0.002		
Barium (Ba)	51	48.		
Beryllium (Be)	< 0.1	< 0.1		
Cadmium (Cd)	0.16	0.22		
Chromium (Cr)	1.3	1.2		
Cobalt (Co)	2.1	3.0		
Copper (Cu)	3.8	4.6		
Lead (Pb)	1.4	1.4		
Mercury (Hg)	0.009	0.010		
Molybdenum (Mo)	< 3	< 3		
Nickel (Ni)	2.3	3.3		
Selenium (Se)	0.04	0.12		
Silver (Ag)	< 0.1	0.4		
Thallium (Tl)	< 1	< 1		

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is subdirected and uson the conflict that

### TRUESDAIL LABORATORIES, INC.

p. 2

0840

Statio		l-T-B2 (Con't.)
<u>Parameter</u>	10' - 14' Composi	te 22' - 30' Composit
Vanadium (V)	< 10	< 10
Zinc (Zn)	25.5	12.1
Solvents		÷
Acetone	1.4	Trace 0.8
Isopropyl Alcohol	2.6	Trace<0.4
Methyl Ethyl Ketone	N. Ds 0.3	0.8
Ethyl Acetate	5.5	N. D. < 0.5
n-Butyl Alcohol	1.3	1.1
Cyclohexanone	0.7	N. D. < 0.4
Methyl Isolbutyl Ketone	Trace 0.4	Trace: <0.4
•	B6-F33-MV1/MV2 Composite	Station B6-F13-B1 8'6" 15' 22' 30'
Total Recoverable Hydrocarbons	17	170 82 350 490

### TRUESDAIL LABORATORIES, INC.

p.	3
----	---

	Al-T	-Bl Statio	n
Parameter	91	14'	221
Antimony (Sb)	< 2	< 2	< 2
Arsenic (As)	0.02	0.02	0.01
Barium (Ba)	83	51	46
Beryllium (Be)	< 0.1	< 0.1	< 0.1
Cadmium (Cd)	0.69	0.22	0.19
Chromium (Cr) .	112	15.	5.3
Cobalt (Co)	3.6	3.0	2.5
Copper (Cu)	7.7	5.5	4.3
Lead (Pb)	24.	4.6	< 1.
Mercury (Hg)	0.011	0.011	0.009
Molybdenum (Mo)	< 3	< 3	< 3
Nickel (Ni)	4.8	4.3	2.5
Selenium (Se)	0.12	0.02	0.02
Silver (Ag)	0,5	0.1	0.1.
Thallium (Tl) .	3.9	2.	2.9
Vanadium (V)	< 10	50	< 10
Zinc (Zn)	154	33.9	14.0

#### TRUESDAIL LABORATORIES, INC.

0840

		Al-T-Bl Sta	ation
Parameter	91	14'	22'
Solvents			
Isopropyl Alcohol	N.D. < 0.4	3.8	2.5
Methyl Ethyl Ketone	0.6	0.8	3.4
Ethyl Acetate	3.7	N.D.<0.5	N.D. < 0.5
n-Butyl Alcohol	N.D.< 0.3	Trace<0.3	N,D. < 0.3
Cyclohexanone	N.D. < 0.4	N.D.<0.4	Trace < 0.4

Methyl Isobutyl Ketone Trace < 0.4 N.D. < 0.4 Trace < 0.4

p. 4

Al-F13-MV1,12'

0.4 Trace < 0.4 N.D. < 0.4

#### Parameter

Total Recoverable Hydrocarbons

n-Butyl Acetate

Milligrams per Kilogram

41

Respectfully submitted,

TRUESDAIL LABORATORIES, INC.

Richard D. Reid Chief Water Chemist

#### REPORT

### TRUESDAIL LABORATORIES, INC.

0840

HEMISTS - MICROBIOLOGISTS - ENGINEERS
HESEARCH - DEVELOPMENT - TESTING

14201 FRANKLIN AVENUE TUSTIN, CALIFORNIA 92680 AREA CODE 714 • 730-6239 AREA CODE 213 • 225-1564 CABLE: TRUELABS

DATE December 19, 1984

RECEIVED Various dates

LABORATORY NO. 02275

Gregg & Associates

18351 Beach Blvd., Suite L

Huntington Beach, CA

Attention: Dean Gregg

SAMPLE

CLIENT

Soils & Liquids from Lockheed

#### **NVESTIGATION**

Organics Analysis - Amended Analyses

#### RESULTS

Sample	1,2 DCE*	Carbon Tetrachloride	Chloroform	1,1,1 TCE*
B6B (soil)	0.014	0.047	ND	ИD
B6L (soil)	ND	0.041	ND	ND
B60 Organic Liqu	id) ND	0.06	0.81	2.08
BGN (soil)	0.11	0.12	ND	ND
B6Q (water)	0.0002	0.0002	0.0038	0.0202
-				
				•

#### B60 Composition, %

•			
Heptane	12.8	2-Methylheptane	5.6
Xylenes	9.1	2-Methylbutane	1.5
Octane	3.96	Pentane	1.1
Hexane	3.8	Cyclohexane	0.98
Methylcyclohexane	5.4	4-Methyl-l-Pentene	1.0
2-Methyl-1,4 hexadiene	6.8	2,3 Dimethylbutane	2.3
4-Methyl-1-hexene	4.3	3-Methy1-2-pentene	2.9
Butane	3.8	1,3 Dimethylcyclopentane	1.7
Ethyl Cyclopentane	1.7	2,3 Dimethyl-1,4 -hexadiene	2.3
Methyl Cyclopentane	3.1	1,3 Dimethylcyclohexane `	1.2
1-Ethyl-3-methylcyclopentene	4.7	1 Octanol	1.2
1,1,3 Trimethylcyclohexane	5.1	1,2,3 Trimethylcyclohexane	1.1
		2,2,5,5 Tetramethyl-3-hexane	1.5

<sup>\* 1,2</sup> DCE = 1,2 Dichloroethane

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and these Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any

<sup>\* 1,1,1</sup> TCE = 1,1,1 Trichloroethane

Milligrams per Kilogram

·			1,2	Ch1c
Sample	1,1 Dichloroethane	Carbon Tetrachloride	<u>Dichloroethylene</u>	etha
	TO	TC	TO	TC
A1-U-B1-10'	IS	IS 0.075	IS <0.008	IS
22'	ND		-	ND
32'	ND TC	0.025	0.008	ND
40'	IS	IS 0.067	IS	IS
A1-V-B2 10'	ND	0.067	0.10	ND
22 '	ND	0.057	0.042	ND
32 '	ND	0.075	0.065	ND
40'	ND	0.082	0.12	ND
A1-F10-MV2	ND	0.062	0.069	ND
A1-F10-MV1	ND	0.14	0.16	ND
A1-U-B1	ND	0.082	<0.008	ND
A1-F-B1- 4'	ND	< 0.0005	0.089	0.6
10'	ND	0.055	<0.008	ND
22'	ND	0.041	< 0.008	ND
33'	ND	0.061	∢ 0.008	ND
40'	IS	IS	IS	I:
A1-F-B2 10'	ND	0.037	0.029	ND
231	IS	IS	IS	IS
32 '	ND	0.072	0.098	ND
40'	0.099	0.069	0.047	ND
. •	• .			
Al-F	Mi	lligrams per Liter		
<del></del>				
Tencuchloroethyl	Lâne	28		
Perchloroethyler		653		
<u>B1-AM-B1</u>	Tot	tal Petroleum Hydrocarbo	ons mg/kg	

Soil containers from Al-T-Bl & B2 had insufficient amounts for analysis.

Respectfully submitted,

460 18,000

TRUESDAIL LABORATORIES, INC.

Richard D. Reid Chief Water Chemist

### DIRECTORY TANK INTEGRITY TEST RESULTS LOCKHEED PLANT B-6

TANK NO.		CHECK WORK .
B-6-F21		2
B-6-F34	(See B-6-0 laboratory results)	1
B-6-N		1,
B-6-U		1

### DIRECTORY OF CHEMICAL ANALYSES: RCQCB REQUESTED ACTIONS - LOCKHEED PLANT B-6

SAMPLE	I.D.		LAB	REPORT	NO.

B-6-Q (82-T1) (82-T2)

1754 1754

### EZY-CHEK WORK SHEET NO. 1

,

Compnay Name Dean Gregg & Associates	Tank Farm Location Lockheed California Company
Contact John Gregg	Contact
Address 18351 Beach Blvd.	Address 2555 N. Hollywood Way
City, State Huntington Beach, California 92647	City, State Burbank, California
Telephone	Telephone
Contractor Horner Creative Metals, Inc.	Operator David Parkhurst
Address 211 East Grove Street	Mars 21 1005
City, State Kawkawlin, Michigan 48631	Telephone
Tank# Capacity Diameter Product	High Test Results Low Test Results Certified Tight
A-f-F 10 12,000 96" Diesel	
B-1-C 5,000 96" Waste Water	009 g.p.h. N/R Yes
B-6- <b>U</b> 6,000 96" Motor Oil	0067 g.p.h. N/R Yes
B-6-0 150 30" Gas & Diesel Mixed	
B-6-N 550 38" Waste Water	+.0053 g.p.h. N/R Yes
Remarks All of the above tank systems certified tie	ght according to N.F.P.A. #329. Tank #A-1-F 10 is equipped with
	sconnected and a seperate hydrostatic line test performed.

### EZY-CHEK WORK SHEET NO. 2

Compnay Name Dean Gregg and Assoc.	Tank Farm Location	Lockheed California Co	•
Contact John Gregg	Contact		
Address18351 Beach Blvd.	Address	2555 N. Hollywood Way	
City, State Huntington Beach, CA. 92647	City, State	Burbank, CA.	
Telephone	Telephone		
Contractor Horner Creative Metals, Inc.		David Parkhurst	
Address 211 East Grove St.	•	6-11-85	
City, State Kawkawlin, MI. 48631		(517) 684-7180 or (818	
Tank# Capacity Diameter Product	High Test Results		Certified Tight
A-1-F8 12,000 96" No Lead	* see below	0235 g.p.h.	No
A-1-F9 12,000 96" No Lead	* see below		No
B-6-F/1 550 32" Regular	0039 g.p.h.	N/R	Yes
Remarks Tank systems # A-1-F8 and A-1-F9 would no	ot hold product	above the top of the tax	nk. I suggest
that the tank to be uncovered and all visible	leaks repaired.	Retest the tanks after	repairs are
made. Tank system #B-6-F21 certified tight.			· · · · · · · · · · · · · · · · · · ·
	/ \		



Corporate Offices, 225 W. 30th Street National City, CA 92050 619 477-4173

I.D. 01-001754

January 8, 1985

Gregg & Associates, Inc. 18351 Beach Blvd., Suite L Huntington Beach, CA 92647

Attention: Ed Baquerizo

Project: CALAC

Number: 84106

On December 5, 1984 Analytical Technologies, Inc. received thirteen (13) soil samples and one (1) water sample for analyses. Petroleum hydrocarbons were analyzed by extracting an aliquot of sample with freon, and analyzing the extract using infrared spectrophotometry, in accordance with EPA method 418.1. Volatile organics were analyzed using gas chromatographs' equipped with Hall and photo ionization detector, in accordance with EPA methods 8010 and 8020.

Analysis of the water sample, B6-Q for volatile organics was not possible due to improper sample container.

ML:mat

John W. Strand

Support Services Manager

of W. Show

Reviewed by

Laboratory Manager

Attachments

NOTE: Samples from this project will be disposed of in thirty (30)

days from the date of this report, unless we are informed

otherwise.

Gregg & Associates

I.D. 01-001754

#### PETROLEUM HYDROCARBON DATA SHEET

B6-82-T1       5'         B6-82-T1       10'         86-82-T1       20'         86-82-T1       30'         86-82-T1       40'         86-82-T1       65'         86-82-T2       5'         86-82-T2       5'         86-82-T2       11.9         86-82-T2       10'         86-82-T2       20'         86-82-T2       3.0'         86-82-T2       45'         86-82-T2       60'         2.3	Soil Sample	Petroleum Hydrocarbons, mg/kg*
86-82-12 80' <1.0	B6-82-T1 10' B6-82-T1 20' B6-82-T1 30' B6-82-T1 40' B6-82-T1 65' B6-82-T2 5' B6-82-T2 10' B6-82-T2 20' B6-82-T2 30' B6-82-T2 45'	<1.0 <1.0 26.8 3.7 11.9 5.5 17.9 6.3 <1.0

#### Water Sample

B6-Q

28% Water 72% Oil

\*(mg/kg) is milligrams per kilogram

Client: Gregg & Associates	Date Collecte	d:12-4-84
Sample I.D.: B6-82-T1 5'	Date Received	by Lab:12-5-84
Sample Matrix: Soil	Date Analyzed	:1-2-85

μg/Kg	- -	µg/Kg	<del></del>
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	1,1,1-Trichloroethane
< 0.7	Bromoform	< 0.1	l,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ИП	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		٠,
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene	-	
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample i.D.: B6-82-T1 10'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

ug/Kg		ug/Kg	<del>-</del>
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,l,l-Trichloroetnane
< 0.7	Bromoform	< 0.1	i,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	- Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	- Vinyl Chloride
< 0.8	Chloroethane		_
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
÷ 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
<-0.6	l,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene	•	•
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

Tetrachloroethene

Client: Gregg & Associates	Date Collected: 12-4-84	
Sample I.D.: 86-82-T1 20'	Date Received by Lab: 12-5-84	_
Sample Matrix: Soil	Date Analyzed: 1-2-85	_

μg/Kg	_	μg/Kg	_
< 0.2	Benzene _	< 0.4	_ Toluene
< 0.1	Eromodichloromethane _	< 0.2	_ l,1,1-Trichloroethane
< 0.7	Bromoform _	< 0.1	_ 1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	_ Trichloroethene
< 0.1	Carbon Tetrachloride	NO_	_ Trichlorofluoromethane
< 0.8	Chlorobenzene _	< 0.2	_ Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Bichlorobenzene		
N D	Dichlorodifluoromethane		
< 0.1	1,1-Bichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		<i>,</i>
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene	·	
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

< 0.4 Tetrachloroethene

#### VOLATILE ORGANIC ANALYSIS DATA SUMMARY (EPA METHOD 8010 & 8020)

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 1 30'.	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

µg/Kq		20 / K a	
	· -	ид/Кд	_
< 0.2	Benzene	< 0.4	_ Toluene
< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichloroethane
< 0.7	Bromoform	< 0.1	_ 1,1,2-Trichloroethane
< 0.1	Bromomethane _	< 0.3	_ Trichloroethene
< 0.1	Carbon Tetrachloride	ND	_ Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		_
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene	•	v.
< 0.1	trans-1,2-Dichloroethene		
< 0.1	l,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

Tetrachioroethene

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: 86-82-T 1 40'	Date Received by Lab: 12-5-84
Sample Matrix: Soil -	Date Analyzed: 1-2-85

µg/Ka		нд/К <u>д</u>	-
< 0.2	Benzene	< 0.4	Toluene
« O.1	8romodichloromethane	< 0.2	- l,l,l-Trichloroethane
< 0.7	Bromo form	< 0.1	1,1,2-Trichloroetnane
< 0.1	Bromomethane	< 0.3	- Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		-
< 0.2	2-Chloroetnylvinylether		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		,
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Etnyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 1 65'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

µа/Ка		ug/Kg	
	_		- 
< 0.2	8enzene -	< 0.4	_ Toluene
< 0.1	Sromodichloromethane -	< 0.2	_ l,l,l-Trichloroethane
< 0.7	Bromo form	< 0.1	_ 1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	_ Trichloroethene
< 0.1	Carbon Tetrachloride	ND	_ Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	_ Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		
• < 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< 0.6	l,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		•
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		•

Client: Gregg & Associates	Date Collected:	12-4-84
Sample I.D.: B6-82-T2 5'	Date Received by Lab:	12-5-84
Sample Matrix: Soil	Date Analyzed:	1-2-85

μg/Kg	•	ug/Kg	_
< 0.2	.Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichloroethane
< 0.7	Bromoform	< 0.1	l,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	- _ Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		·
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene	•	
< 0.4	1,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene		
N D	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene	-	
< 0.1	l,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		•
< 0.1	Ethyl Benzene		•
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 2 10!	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

μq/Kq		ug/Kg	<b></b>
< 0.2	Benzene	< 0.4	Toluene
< 0.1	8romodicnloromethane	< 0.2	- _ l,l,l-Trichloroethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromometnane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	<sup>-</sup> < 0.2	- _ Vinyl Chloride
< 0.8	Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		·
< 0.2	Chloromethane	•	
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene	,	
< 0.4	l,3-Dichlorobenzene		·
< 0.6	1,4-Dichlorobenzene		•
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		,
< 0.1	1,1-Dichloroethene		
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		
< 0.5	Metnylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		

Tetrachloroethene

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 2 20'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

μα/Κα		µа/Ка	<del></del>
< 0.2	Benzene	< û.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	l,l,l-Trichloroetnane
< 0.7	Bromoform	< 0.1	
< 0.1	Bromomethane	< 0.3	Trichloroethene
0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		
0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane	•	
< 0.4	l,2-Dichlorobenzene		
< 0.4	l,3-Dichlorobenzene		
< 0.6	1,4-Dichlorobenzene	4	
ND	Dichlorodiflucromethane		•
< 0.1	l,1-Dichloroethane		·
< 0.1	1,2-Dichloroethane		
< 0.1	l,i-Dichloroethene		·
< 0.1	_ trans-1,2-Dichloroethene		
< 0.1	_ 1,2-Dichloropropane		
< 0.1	cis-l,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		•
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected:	12-4-84
Sample I.D.: B6-82-T 2 30'	Date Received by	Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed:	1-2-85

µg/Кq	_	ug/Ka	_
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	 l,l,l-Trichloroetnane
< 0.7	Bromoform	< 0.1	- 1,1,2-Trichloroethane
< 0.1	- Bromomethane	< 0.3	— Trichloroethene
< 0.1	- — — — — — — — Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	- Chlorobenzene	< 0.2	Vinvl Chloride .
< 0.8	- Chloroethane		
< 0.2	2-Chloroethylvinylether		
< 0.1			
• < 0.2	- Chloromethane		
< 0.1	- Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
. 0.4			
< 0.6	1,4-Bichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		
< 0.1	1,2-Dichloroethane		
< 0.1	l,l-Dichloroethene		•
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene	•	
• 0.1	trans-1,3-Dichloropropene		
< 0.1	_ Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 2 45'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

µq/Kq	_	цд/Кд	-
< 0.2	Benzene	< 0.4	Toluene .
< 0.1	Bromodichloromethane	. 0.2	l,l,l-Trichiorpethane
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroetnane
< 0.1	Bromomethane	< 0.3	Trichioroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		_
< 0.2	2-Chloroethylvinylether	•	
< 0.1	Chloroform		
• < 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene		
< 0.4	1,3-Dichlorobenzene		
< Ò.6	l,4-Dichlorobenzene		
ND	Dichlorodifluoromethane		
< 0.1	l,l-Dichloroethane		
< 0.1	l,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		•
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		•
< 0.1	Ethyl Benzene		
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 2 45'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

			•
µа/Ка		ug/Kg	<del>_</del>
< 0.2	Benzene	< 0.4	Toluene
< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichiordethame
< 0.7	Bromoform	< 0.1	1,1,2-Trichloroethane
< 0.1	Bromomethane	< 0.3	Trichloroethene
< 0.1	Carbon Tetrachloride	ND	Trichlorofluoromethane
< 0.8	Chlorobenzene	< 0.2	Vinyl Chloride
< 0.8	Chloroethane		-
< 0.2	2-Chloroethylvinylether		
< 0.1	Chloroform		•
< 0.2	Chloromethane		
< 0.1	Dibromochloromethane		
< 0.4	1,2-Dichlorobenzene	· .	
< 0.4	1,3-Dichlorobenzene		
< 0.5	1,4-Dichlorobenzene		
NO	Dichlorodifluoromethane		
< 0.1	1,1-Dichloroethane		•
< 0.1	1,2-Dichloroethane		
< 0.1	1,1-Dichloroethene		·
< 0.1	trans-1,2-Dichloroethene		
< 0.1	1,2-Dichloropropane		
< 0.1	cis-1,3-Dichloropropene		
< 0.1	trans-1,3-Dichloropropene		
< 0.1	Ethyl Benzene		•
< 0.5	Methylene Chloride		
< 0.4	1,1,2,2-Tetrachloroethane		
< 0.4	Tetrachloroethene		

Client: Gregg & Associates	Date Collected:	12-4-84
Sample I.D.: B6-82-T 2 60'	Date Received by Lab:	12~5-84
Sample Matrix: Soil	Date Analyzed:	1-2-85

μg/Kg		ug/Ka	<del>_</del>	
< 0.2	Benzene	< 0.4	Toluene	
< 0.1	Bromodichloromethane	< 0.2	l,1,1-Trichloroethane	
< 0.7	Bromoform	< 0.1	l,1,2-Trichloroethane	
< 0.1	Bromomethane	< 0.3	Trichloroethene	
< 0.1	Carbon Tetrachloride	סא	Trichlorofluoromethane	
< 0.8	Chlorobenzene	< 0.2	Vinyl Chlorice	
< 0.8	Chloroethane			
< 0.2	2-Chloroethylvinylether			
< 0.1	Chloroform		•	
< 0.2	Chloromethane			
< 0.1	Dibromochloromethane			
< 0.4	1.,2-Dichlorobenzene			
< 0.4	1,3-Dichlorobenzene			
< 0.6	1,4-Dichlorobenzene			
ND ND	Dichlorodifluoromethane			
< 0.1	l,l-Dichloroethane			
< 0.1	1,2-Dichloroethane			
< 0.1	1,1-Dichloroethene		•	
< 0.1	trans-1,2-Dichloroethene			
< 0.1	1,2-Dichloropropane			
< 0.1	cis-1,3-Dichloropropene			
< 0.1	trans-1,3-Dichloropropene			
< 0.1	Ethyl Benzene			
< 0.5	Methylene Chloride			
< 0.4	1,1,2,2-Tetrachloroethane			

< 0.4 Tetrachloroethene

Client: Gregg & Associates	Date Collected: 12-4-84
Sample I.D.: B6-82-T 2 80'	Date Received by Lab: 12-5-84
Sample Matrix: Soil	Date Analyzed: 1-2-85

μg/Kg	-	ug/Kg	_	
< 0.2	Benzene	< 0.4	Toluene	
< 0.1	Bromodichloromethane	< 0.2	_ l,l,l-Trichloroethane	
< 0.7	Bromoform	< 0.1		
< 0.1	Bromomethane	< 0.3	Trichloroethene	
< 0.1	Carbon Tetrachloride	ND	_ Trichlorofluoromethane	
< 0.8	Chlorobenzene	< 0.2	_ Vinyl Chloride	
< 0.8	Chloroethane			
< 0.2	2-Chloroethylvinylether		•	
< 0.1	Chloroform			
< 0.2	Chloromethane			
< 0.1	Dibromochloromethane			
< 0.4	1,2-Dichlorobenzene			
< 0.4	1,3-Dichlorobenzene			
< 0.6	1,4-Dichlorobenzene			
ND ND	Dichlorodifluoromethane			
< 0.1	l,l-Dichloroethane			
< 0.1	1,2-Dichloroethane			
< 0.1	l,1-Dichloroethene			
< 0.1	trans-1,2-Dichloroethene			
< 0.1	l,2-Dichloropropane			
< 0.1	cis-1,3-Dichloropropene			
< 0.1	trans-1,3-Dichloropropene			
< 0.1	Ethyl Benzene	·.		
< 0.5	Methylene Chloride			
< 0.4	1,1,2,2-Tetrachloroethane			

< 0.4 Tetrachloroethene

01-001754- SPIKE

Client: Gregg & Associates Sample I.D. Spike

Sample Matrix: Soil

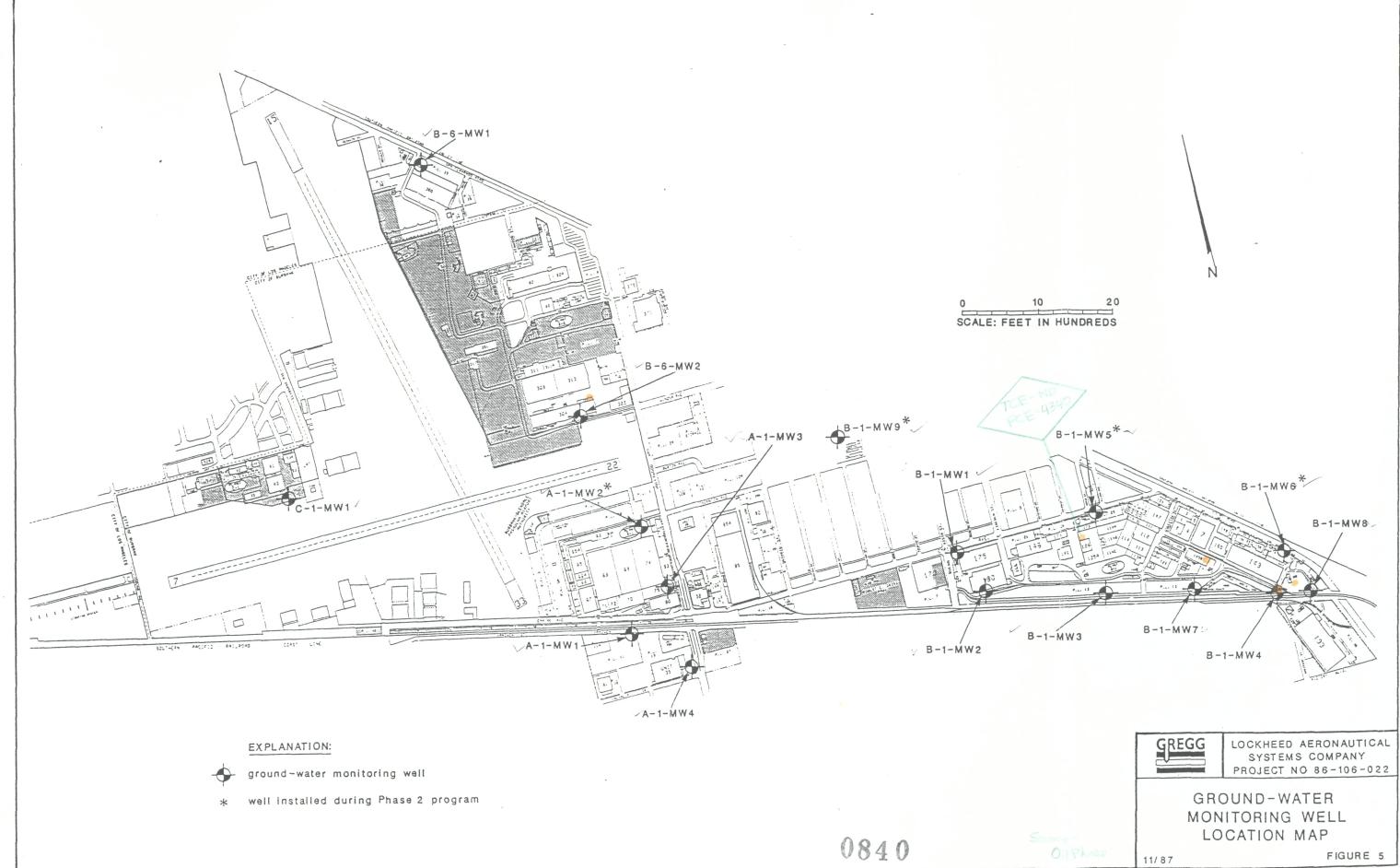
Date Collected: 12-4-84

Date Received by Lab: 12-5-84

Date Analyzed: 1-2-85

#### % Recovery

83.8	Bromodichloromethane
87.8	Carbon Tetrachloride
88.2	Chlorobenzene
88.1	Chloroform
84.4	1,1-Dichloroethane
84.1	1,2-Dichloroethane
87.1	1,1-Dichloroethene
89.4	trans-1,2-Dichloroethene
89.5	Tetrachloroethene
88.9	1,1,1-Trichloroethane



APPENDIX C LABORATORY REPORTS